December 6, 1993

Charles Schwer, Supervisor
Sites Management Section
Hazardous Material Management Division
Department of Environmental Conservation
103 South Main Street/West Office
Waterbury, Vermont 05671-0404

Re:

New England Equipment Company Property in Williston, Vermont

JCO #1-1436-1 - Vermont Site #93-1465

Dear Chuck:

I am writing this letter at the request of Bob Williams of New England Equipment Company. We would appreciate your prompt review of our November 4, 1993 letter to you. That letter is our formal response to your October 19, 1993 letter to Bob Williams, and included a proposal of additional work to be conducted at the above referenced site. With that letter we enclosed our report of the Level II ESA of the New England Equipment Company property.

Should you have any questions or comments please do not hesitate to contact us at 229-4600.

Sincerely,

THE JOHNSON COMPANY, INC.

Project Geologist

Donald M. Maynard, CG

cc: Bob Williams

New England Equipment Company

4 Woodcock Lanc

Etna, New Hampshire 03750

I:\PROJECTS\1-1436-1\SCHWER2.LTR - Reviewed by: JRB

Level II Environmental Site Assessment of the New England Equipment Company Property Williston, Vermont November 1993 Prepared for: NEW ENGLAND EQUIPMENT COMPANY 4 Woodcock Lane Etna, New Hampshire 03750 Prepared by: THE JOHNSON COMPANY, INC. 5 State Street Montpelier, Vermont 05602 (802) 229-4600

THE JOHNSON COMPANY, INC.

Environmental Sciences and Engineering

November 8, 1993

Mr. Bob Williams
New England Equipment Company
4 Woodcock Lane
Etna, New Hampshire 03750

Re:

New England Equipment Property - Williston, Vermont

JCO No. 1-1436-1

Dear Bob:

Attached please find one copy of our report summarizing the findings by The Johnson Company, Inc. for New England Equipment Company, Inc. in regard to a Level II Environmental Site Assessment (ESA). The ESA was performed at the New England Equipment Company Property located at the intersection of Industrial Avenue and Williston Road (US Route 2) in Williston, Vermont. The Site is currently leased by Grappone Industrial, Inc., and used as a John Deere sales and service center.

Per your request, we have submitted this report to Charles Schwer of the Vermont Sites Management Section. Should you have any questions or comments in regard to any of the above described material, please do not hesitate to contact me at (802) 229-4600, or at home (802)728-4325. We have appreciated your using The Johnson Company to perform this work. Thank you.

Sincerely,

THE JOHNSON COMPANY, INC.

Donald M. Maynard

Project Geologist

and

By: Elizabeth R/ Hinckley

Staff Geologist

enclosure

cc: Chuck Schwer

J:\PROJECT\$\1-1436-1\REPORT\reviewed by JRB

EXECUTIVE SUMMARY

The New England Equipment Property (the Site) is located at the corner of Williston Road (US Route 2) and Industrial Avenue in Williston, Vermont. The Site is currently leased by Grappone Industrial, Inc. and is used as a John Deere sales and service center. According to Frank Flora, Facility Manager, the site has been a construction equipment service facility for at least thirty years.

The Site's topography is very flat, partially due to excavation and leveling of north and eastern sections of the parcel. The soils beneath the site are a mixture of 5-10 feet of medium sand fill over native massive fine sand. Based on nearby water supply well logs, under the sands there is a thick blue clay layer and limestone bedrock. Groundwater in the surficial fine sand aquifer was typically encountered between 13 to 16 feet below ground surface. A ground water elevation measurement in the (unused) on-site water supply well showed that there is an upward hydraulic gradient below the site.

During the initial Site walkover the Johnson Company identified eleven areas deemed to be susceptible to potential contamination based on facility layout and operations, headspace screening for volatile organic compounds, and Site history. On September 10 and September 16, 1993 a total of seven soil borings and four monitoring well were installed. Detailed soil descriptions and PID readings were logged at 2-5 foot intervals. Two areas of petroleum contaminated soils were identified near the east end of the collection ramp, and near the above ground storage tanks. The volume of contaminated soils in these areas is estimated as two yards or less.

On September 16, 1993, a petroleum release was discovered while drilling SB-8, near the oil/water separators. A remedial investigation was conducted with a John Deere 790 excavator to define the extent of contamination, and two eight by five foot dry-wells were encountered. The dry-wells contained a viscous black petroleum product, and were reportedly connected to a floor drain in the service garage, but had not been in use for over 13 years. All free product was removed from the dry-wells and placed into 55 gallon drums, and the excavation was backfilled and tamped using on-site material. Visual observations and a PID headspace analysis of the underlying sands did not indicate any downward migration of the sludge. The release was assigned Vermont Site #93-1465.

Groundwater analysis results from samples collected on September 28, 1993 showed that no volatile organic compounds attributable to the petroleum release were migrating off-site.

None of the potential sources of contamination were found to have impacted the groundwater, or traveled off-site. No probable off-site surface water, surface water runoff, or atmospheric off-site receptors were deemed to be endangered by observed releases or site operations. Possible on-site contact with petroleum is limited to the shop area, to the area of the wash water collection ramp, and near the aboveground storage tanks.

Although activities at the site have the potential to cause a release of hazardous materials, it is not apparent that there has been any environmental impact above applicable regulatory levels to the groundwater beneath the site. Localized areas of petroleum contaminated soil were identified, however due to the nature and volume of the contaminants, these have not resulted in contaminant migration beyond the immediate area of the releases.

TABLE OF CONTENTS

	COVER LETTE	R	•			
	EXECUTIVE S	UMMARY ii	Ĺ			
•	1.0 INTRODUC	CTION 1	ĺ			
	2.0 SITE DESC	CRIPTION AND HISTORY 1	Ĺ			
	3.0 SITE WAL	KOVER5	5			
ı	4.0 SOIL BORING AND MONITORING WELL INSTALLATION 6					
		L INVESTIGATION				
•	6.0 GROUND	WATER INFORMATION	9			
	7.0 GROUND	WATER SAMPLING AND LABORATORY CHEMICAL ANALYSES 1	1			
	8.0 SUMMAR	Y AND CONCLUSIONS	2			
•	LIST OF FIGU					
•	Figure 1	Site Location Map	2			
	LIST OF TABLES					
	Table 1	TOC Elevations	9			
•	LIST OF APP	ENDICES				
	Appendix 1. Appendix 2. Appendix 3. Appendix 4.	Background Site Information Soil Borings and Well Logs Groundwater Elevation Data Sampling Data and Laboratory Chemical Analyses				
	LIST OF ATT	ACHMENTS				
•	Attachment 1	Site Plan				

1.0 INTRODUCTION

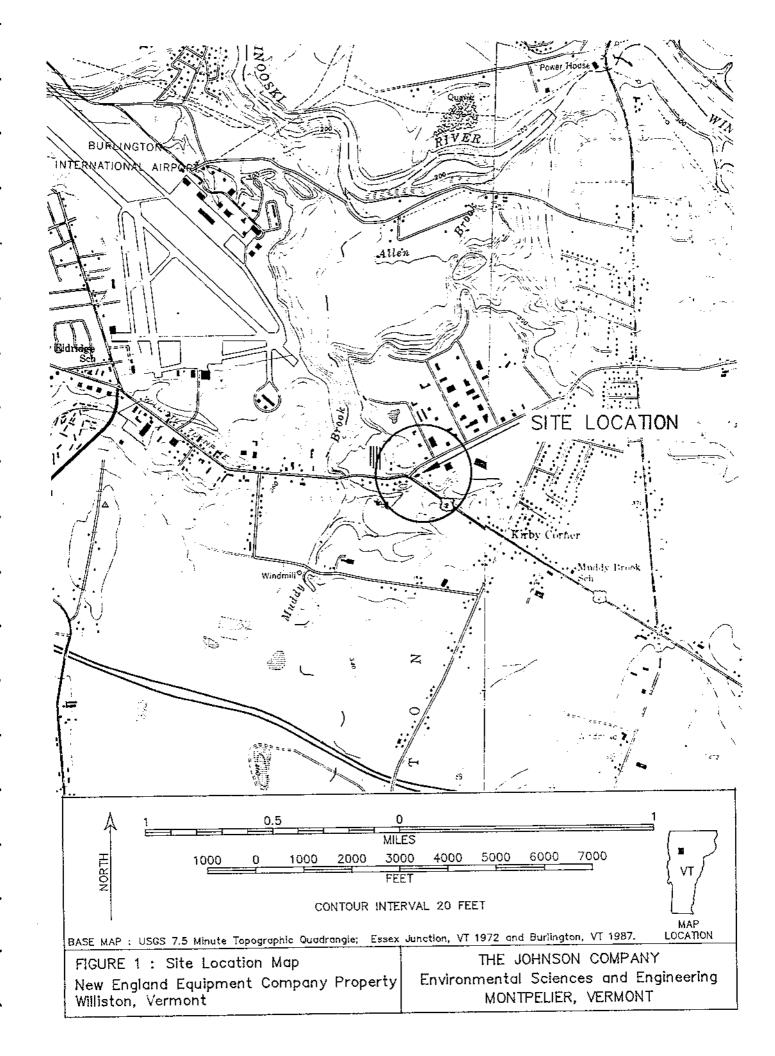
This report presents the results of three separate tasks undertaken in regard to a Level II Environmental Site Assessment (ESA) performed at the New England Equipment Company Property in Williston, Vermont. The property (the Site) is located at the corner of Industrial Avenue and Williston Road (US Route 2) in Williston, Vermont (See Figure 1 - Site Location Map). The ESA was performed at the request of Bob Williams of New England Equipment Company. The tasks are summarized as follows:

- 1. Review and evaluation of an existing Level I Environmental Site Assessment (ESA) performed in January 1993 by Provan and Lorber, Inc.
- 2. Performance of a Level II ESA on September 10, 16, and 28, 1993 at the New England Equipment Company property in Williston, Vermont. The Level II ESA investigation consisted of: A site walkover; soil boring and monitoring well installation; water sampling and analysis; and groundwater level measurements.
- 3. A remedial investigation of a petroleum release at the above referenced site. The remedial investigation consisted of: Soil and groundwater chemical analyses; contaminated sludge and soil excavation and disposal; and identification of potential atmospheric, groundwater, and surface water receptors.

2.0 SITE DESCRIPTION AND HISTORY

The subject property is a 5.2 acre parcel located at the intersection of Industrial Avenue and Williston Road (US Route 2) in Williston, Vermont. The Site, owned by New England Equipment Company from 1981 to present, has been leased by Grappone Industrial Inc. since February 1993, and used as a John Deere sales and service facility. Frank Flora, Facility Manager for Grappone, noted that Site had been owned and operated by J&B Equipment Company prior to 1981. Flora has been employed at the subject facility for the past 18 years. According to a 1993 Level I ESA conducted by Provan and Lorber, Inc. (in Appendix 1), the Site has been used for the servicing construction equipment for at least 30 years.

The topography of the parcel is very flat due to excavation and leveling of a former hillside east and south of the main building. Stable cut slopes near the eastern property line indicate that approximately twenty feet of material has been excavated from the area.



Based on a 1908 USGS 15 minute topographic map (in Appendix 1), the site topography once sloped toward the southwest. The characteristic flatness of this parcel is not represented in the 7.5 minute U.S.G.S quadrangle for Essex Junction (photorevised in 1972).

Presently, two buildings occupy the Site, one housing the office, the service garage, and the spray paint room and the other used for equipment storage. The spray paint room has not been used since 1990 except for equipment storage and maintenance. A 40 foot box trailer parked on the east side of the storage building is used to store oil. Two existing aboveground storage tanks consisting of a 300-gallon waste oil tank and a 500-gallon diesel fuel tank are located near the northeast corner of the garage (see Attachment 1 - Site Plan).

According to Frank Flora, "several" underground storage tanks have been removed from the Site in the last 18 years. An underground diesel tank and an underground waste oil tank were removed from an area adjacent to the north wall of the garage in 1989. Flora also stated that two former 20,000-30,000 gallon waste oil tanks (one being a rail car) which had been buried in the northeast corner of the Site were removed sometime between 1983-1984. Flora suspects additional underground storage tanks, formerly located along the south wall of the current spray paint room (see Attachment 1 - Site Plan) were removed prior to his employment in 1975. There is no confirmation of their removal. He also explained that the facility had undergone a fire prior to 1980, and fire refuse including equipment and parts had been buried 10-30 feet deep near the east side of the storage building.

Flora confirmed the location of one septic leach field in front of the office facing Industrial Avenue as shown in "Figure 3 - Site Plan" of the Level I ESA report prepared by Provan and Lorber, Inc. (Included in Appendix 1). The other leach field represented on the "Figure 3 - Site Plan" (shown approximately 100' east of the building) is a dry well surrounded by approximately 150 yards of drainage stone approximately 20-25 feet deep. Per Frank Flora, the dry well is connected to two in-line oil/water separators with a 4" PVC pipe. Flow to the separators is from a 10 by 36 foot wash water collection ramp which is used to collect runoff from the process of steam cleaning construction equipment. The oil separators were also connected to a floor drain in the garage prior to 1993. The floor drain has since been plugged with concrete. Prior to 1981, the garage floor drain was connected directly to two dry-wells (See Attachment 1).

The Johnson Company conducted a regional reconnaissance of potential off-site receptors of environmental contamination. These receptors included: Groundwater; surface water bodies; and atmospheric receptors. The potential for on-site contact with contamination was also evaluated.

A review of Vermont Water Supply Division records (1966-present) showed that no public water supply wellhead protection areas encompass the Site. The prevalent public water supplies within three miles of the Site are: the Williston Water District distributed by the Champlain Valley Water District, the Fire District #1 public groundwater supply well (WSID# 5100), and a public groundwater supply well serving the Meadowland development (WSID# 5099) one mile northeast of the Site (See Appendix 1).

There is one on-site private water supply well which is not in use. This well was installed prior to maintenance of well log records by the State of Vermont. Well logs in the vicinity of the site typically describe sandy soils over a thick layer of blue clay above the bedrock. Since 1966, only one private well has been installed within a one-half mile of the Site (See Appendix 1). State records show that the well, labeled #36, was drilled for the Four Seasons Garden Center to a total depth of 400 feet below ground surface into limestone bedrock. The upper 120 feet is logged as being sand, clay and boulders. The well produces at a rate of 87 gallons per minute.

On-site groundwater flow and chemical data, combined with the presence of the clay layer, indicate that none of the identified wells currently in use appear to be at risk from contamination observed at the Site. Water supply wells in South Burlington were not reviewed. All wells in South Burlington are on the opposite side of Muddy Brook from the Site and more than one half mile from the Site.

As documented by two U.S.G.S. 7.5 minute quadrangles, Essex Junction and Burlington, the nearest surface water bodies are: A tributary of Muddy Brook located about 300 feet cross-gradient of the Site's aboveground storage tanks; Muddy Brook, which is located about one half mile west and downgradient from the Site; and Allen Brook which is located greater than one half mile upgradient from the center of the site.

The Site's surface water runoff is directed into two on-site storm drains which are surrounded by a filter of drainage stone. According to the Level I ESA prepared by Provan and Lorber, Inc., the area is not supported by a municipal sewer system.

There are no atmospheric receptors such as basements on-site. There is no evidence of contamination traveling off-site in groundwater or in the vapor phase. Therefore no atmospheric receptors, such as downgradient basements, are presumed to be endangered.

Potential on-site contact with hazardous material is limited to the shop area, and to the area of the wash water ramp and the existing aboveground storage tanks during pumping/filling operations. This contact hazard is typical of construction equipment servicing operations.

3.0 SITE WALKOVER

The site walkover was conducted September 10, 1993 by Don Maynard, Project Geologist, and Liz Hinckley, Staff Scientist, both of The Johnson Company, Inc. Frank Flora, Grappone Facility Manager, accompanied the Johnson Company team for an initial tour of the facility and grounds. The walkover included the identification of potential sources and migration pathways of hazardous material contamination, and the siting of representative soil boring and monitoring well locations.

Equipment and instruments used during the walkover consisted of a Model PI 101 photoionization detector (PID) with a 10.2 Ev lamp, manufactured by Hnu Systems. The PID was used to screen for presence of volatile organic compounds (VOCs) in soils, in drains, or in the working breathing space. Each day prior to conducting headspace VOC screening, the Hnu was calibrated on-site using 56 ppm isobutylene gas. At the completion of each VOC screening for each day, the calibration of the PID was reconfirmed using the same method.

The walkover culminated in the initial siting of 11 soil boring locations in areas deemed to be subject to possible groundwater and/or soil contamination based on the Site's history and observations of the facility layout and operations. Areas noted by The Johnson Company to be potential sources of contamination included:

- 1) the areas where underground storage tanks were supposedly removed;
- 2) near the existing above ground storage tanks;
- in the vicinity of both on-site storm drains;
- in the area east of the storage building where Frank Flora explained fire refuse, including parts and equipment, had been buried;
- 5) in the septic leachfield located between the office and Industrial Avenue;
- near the oil separators and near the connected dry-well;
- 7) near the shallow end of the collection ramp, where overflow contamination is most likely;
- 8) and approximately 100 feet south of the storage shed, where employees are said to dump sludge from the collection ramp.

4.0 SOIL BORING AND MONITORING WELL INSTALLATION

On September 10, 1993 JCO drilled a total of seven borings (SB-1, SB-2, SB-3, SB-4, SB-5,SB-6, and SB-7), and installed monitoring wells in SB-2, SB-3, and SB-6 where soil headspace PID measurements exceeded 5 parts per million (ppm) concentration. The borings were drilled with a gas-powered 4" diameter solid stem auger. Due to continuous refusal at three feet below ground surface in the area just south of the aboveground storage tanks, a three foot by fifteen foot trench was dug seven feet below ground surface with an excavator. Then the 4" diameter gas-powered auger was used to drill a hole in the bottom of the trench to a total depth of 14 fbgs, where monitoring well SB-6 was installed.

Soil descriptions were logged for each soil boring, and soil samples where taken from the auger flights at regular intervals for bag headspace analysis. This procedure involves placing the tip of the PID described above into a Ziploc-sealed soil sample for a PID headspace reading. PID readings and descriptions of the soil stratigraphy for the each boring are presented in Appendix 2 of this report.

Some soil staining and a odor reminiscent of old diesel was observed near the aboveground storage tanks. A three by fifteen foot trench excavation of the area showed that the contamination was limited aerially and also to within 3 feet of the ground surface. Less than one cubic yard of soil is estimated to be contaminated with petroleum, as characterized by headspace PID measurements above 10 ppm. The contamination is probably due to spillage during pumping and filling operations. A well (SB6A) was installed at this location to evaluate groundwater quality.

Headspace analysis of soils collected from the east end of the collection ramp between 3-3.5 feet below ground surface (fbgs) measured 11.8 ppm. The soils had an odor reminiscent of old diesel. Based on headspace measurements, less than one yard of soil is contaminated above 10 ppm. The contamination is probably due to spillage from the collection ramp. A well (SB-7A) was installed at this location to evaluate groundwater quality.

On September 16, 1993, under the supervision of Donald M. Maynard of the Johnson Company, additional soil borings and monitoring wells were installed by Tristate Drillers, Inc. with a 8" diameter hollow stem auger. The hollow stem auger rig was able to install deeper monitoring wells and soil borings then the 4" gas-powered auger used on September 10, 1993, allowing better characterization of the groundwater elevation and flow direction. Wells SB-2 and SB-6, drilled on September 10, 1993 were replaced by deeper wells (SB-2A and SB-6A, respectively). Boring SB-7 was drilled deeper and a well was installed (SB-7A). An additional four soil borings were drilled on September 16 (SB-8, SB-9, SB-10, and

SB-11). During the installation of all monitoring wells and soil borings, soils were generally sampled in five foot depth increments using a two foot long split spoon sampler; and visually logged for both stratigraphy and for signs of possible contamination. The samples were screened for the presence of VOCs using the PID bag headspace method.

An autolevel and rod survey, with taped horizontal distances, was used to determine the relative vertical and horizontal locations of each soil boring and monitoring well. The relative elevations were based on an assumed benchmark elevation of 100 feet.

5.0 REMEDIAL INVESTIGATION

A suspected release of petroleum product was discovered on Thursday, September 16, 1993 during soil sampling at the Site. At 13:45 a soil boring (SB-8) was excavated near the corner of the office building and the garage (see Attachment 1 - Site Plan). Soil samples were collected off the auger blades from 0-5 feet below ground surface (fbgs). These soils were brown humid fine and medium sand, mixed with plastic, plywood, debris, and angular pebbles. A bag headspace of 1.8 ppm was measured with a calibrated PID from a composite 0-5 fbgs sample. A split spoon sample was collected from 5-7 fbgs. Upon extraction, the lower 18" of the spoon was coated with a black oily material. Recovery in the sampler was twelve inches. The upper five inches was wet black ooze with pebbles and silt. It had a consistency of whipped butter, and an odor reminiscent of old petroleum. The lower seven inches was a brown humid massive fine sand. A bag headspace of 2.3 ppm was measured from the fine sand. The oily material was placed in vials, and was sent to Friedman and Bruya (Seattle, Wa.) for laboratory "fingerprint" analysis. The hole was backfilled with 100 pounds of bentonite to two feet below ground surface. Donald M. Maynard of JCO reported the suspected release to Bob Hasiam of the DEC by telephone at 14:47, and confirmed by letter to Charles Schwer of the DEC on September 17, 1993.

Laboratory analysis performed by Friedman and Bruya of the SB-8 sample indicated that the product is a mixture of diesel fuel, motor oil, and hydraulic fluid. The analysis used was capillary gas chromatography characterization with a flame ionization detector and electron capture detector. (See Appendix 4).

A remedial investigation was conducted with a John Deere 790 excavator on September 23 and 24, 1993. Donald M. Maynard, Project Geologist of the Johnson Company, was present during all phases of the investigation. The soil was excavated in the vicinity of the soil boring (SB-8) where the product was discovered. Two eight foot by five foot concrete dry wells were encountered at 3.5 feet bgs. Both dry wells

were perforated with numerous three inch by five inch perforations along their sides. The dry wells were covered by about three inches of angular crushed stone, which in turn was covered by polyethylene. The concrete walls and roof of the dry wells were three inches thick. The walls were 2.5 feet high, and there was no bottom to the concrete structures. Both dry wells had a 16 inch manhole. Dry well #1 had a concrete manhole cover in place. Dry well #2 had a cinder-block access chimney which terminated about four inches bgs (See Attachment 1 - Site Plan).

The dry wells were surrounded by about two feet of crushed stone, and rested on 6-12 inches of stone. Both dry wells were previously connected to a floor drain in the garage repair shop. According to Frank Flora, Manager for Grappone, they were removed from service and replaced with oil/water separators about 16 years ago. A service connection consisting of Schedule 40 PVC four inch pipe leading to the dry wells was still in place prior to this investigation. The pipe exited the southeast corner of the garage, and had a T distribution to the dry wells.

Upon excavation, dry well #1 had about 12 inches of the oily product in it. The product had also saturated the surrounding crushed stone to a depth of 12 inches. The discovery soil boring, SB-8 encountered this crushed stone layer. The product was removed by shoveling and placed into four 55 gallon drums. The concrete dry well #1 was then removed, and the crushed stone was excavated and placed into four 55 gallon drums. No visible contamination of the underlying humid light brown fine sand was observed. The concrete was cleaned by scraping and wiping, and replaced in the excavation. The excavation was filled and tamped using native materials.

Dry well #2 had about six inches of water over two inches of oily product in it. Below the oily product was about six inches of saturated grey medium and fine sand over about two inches of crushed stone. The water was bailed off and placed into two 55 gallon drums. The product was shoveled out and place into one 55 gallon drum. The sand and stone left inside the dry well did not have the black oily product on them. Because of the proximity of this dry well to the buildings, and the instability of the excavation, the crushed stone outside the dry well was not removed. Light brown sand was observed at about 7 feet bgs beneath the southeast corner of dry well #2. The dry well was crushed, and the excavation backfilled and tamped using on-site material.

Based on visual observations, the oily product contamination was limited to interiors of the dry wells and the crushed stone surrounding the dry wells. It does not appear that free phase product has migrated laterally or downward through the native fine sand. The 11 drums were placarded and stored on-site pending analytical test results.

The Site was assigned Vermont Hazardous Material Release Site #93-1465 by the Hazardous Material Management Division Sites Management Section. The Site was deemed ineligible for the state sponsored Petroleum Cleanup Fund since the release did not occur from an underground storage tank source.

6.0 GROUNDWATER INFORMATION

Relative groundwater elevations were calculated from depth to groundwater data collected on September 10, 16, 17, and 28, 1993 by The Johnson Company. Groundwater elevations measured on these dates did not vary by more than 0.10 feet.

The relative top of casing (TOC) and water level elevations are summarized below:

TABLE 1 TOC ELEVATIONS					
WELL ID	TOC ELEV (FI)	WATER LEVEL BTOC ⁽¹⁾ (FT)	GROUNDWATER ELEV.(F ON 9/28/93		
SB-2A	95.14	13.35	81.79		
SB-3	100.28	13.09	87.19		
SB-6A	97.95	14.12	83.83		
SB-7A	97.86	13.95	83.91		

Based on the interpolation of four points from the four water table elevations (SB-2A, SB-3, SB-6A, and SB-7A) the direction of groundwater flow was determined to be west-northwest, as depicted by the arrow shown on Attachment 1. The hydraulic gradient (slope) calculated along the direction of groundwater flow is .01 ft/ft.

A groundwater level measurement was also taken in the on-site water supply well on September 16, 1993. A relative groundwater elevation of 90.53 feet in the well indicates that the vertical hydraulic gradient is upwards. Hence, the bedrock aquifer is not likely to be affected by any contamination in the overlying fine sand aquifer.

Based on observed water elevations, monitoring well SB-2 is 140 feet directly downgradient of the removed dry wells. The maximum travel time for dissolved contaminants from the dry wells to the monitoring well is estimated to be less than five years using Darcy's equation. Therefore, monitoring well SB-2 water quality should be an accurate gauge of any impact to groundwater from the dry wells, which are much older than five years. The assumptions and calculations involved in this estimate are as follows:

- The distance (1) from the dry wells to monitoring well SB-2 is 140 feet.
- The distance (z) between the bottom of stone in the dry wells and the groundwater is nine feet.
- The groundwater gradient (i) is 0.011 feet/feet.
- The estimated saturated hydraulic conductivity (k) of the fine sand is 3.3 feet per day (Bouwer, 1978, page 38)
- The porosity of the fine sand (n) is 45% (Bouwer, 1978, page 22)
- The dissolved contaminants will migrate vertically to the groundwater only when water is supplied to the system by precipitation or by loading from the floor drains (currently plugged with concrete). This vertical migration will occur under temporarily saturated conditions with a gradient of one. If the vertical migration occurred entirely under unsaturated conditions, the vertical transport velocity may be much slower then the calculated 1.2 days.
- Dissolved phase transport in the groundwater will be more rapid than free product transport due to various attenuating factors.

Calculation of the vertical travel time (Tv) from the base of stone to groundwater;

$$Tv = z/(k/n) = 9ft/(3.3fpd/0.45) = 1.2 days$$

Calculation of the horizontal travel time (Th) from the dry wells to SB-2;

$$Th = 1/(ki/n) = 140ft/(3.3fpd*0.011ft/ft/0.45) = 1,736 days = 4.75 years$$

7.0 GROUNDWATER SAMPLING AND LABORATORY CHEMICAL ANALYSES

Groundwater samples were collected by Warren Davey, Senior Environmental Technician for The Johnson company, Inc. on September 28, 1993 from each monitoring well, using standard operating procedure (JCO-SOP-008) for collection of groundwater samples. A Field Blank for Quality Assurance/Quality Control (QA/QC) was also included in the sample group for analysis. The forms filled out during the well sampling procedure (pursuant to our SOP) are included in Appendix 3. The groundwater samples were delivered with an accompanying chain-of-custody form to SciTest Laboratory Services, an analytical laboratory in Randolph, Vermont for analysis. Analytical tests of the groundwater included EPA method 8010/8020 for volatile organic compounds (VOCs) (See Appendix 4). Analytical tests of the oily product included toxicity characteristic leaching procedure (TCLP) tests for 10 metals, and EPA method 413.2 for oil and grease. The contaminated soils and groundwater collected during the remedial action were tested by EPA methods 413.2 and 418.1 respectively.

Analytical results of the EPA method 8010/8020 analysis show that groundwater samples from SB-3, SB-6A, and SB-7A had below the practical quantitation limit (BPQL equal to 1 ppb for most parameters) for all of the parameters tested. SB-2 tested below the practical quantitation limit for all parameters except for a detection of 2 parts per billion (ppb) Chloroform. Chloroform is not included in the list of substances regulated under the Primary Ground Water Quality Standards in the State of Vermont (Chapter 12 "Ground Water Protection Rule and Strategy", Rule Number 88-37, effective September 29, 1988). The EPA public water supply maximum contaminant level for Chloroform is 100 ppb, twenty times that observed in SB-2. Chloroform is a typical byproduct associated with chlorinated public water supplies. It is not typical of petroleum contamination or maintenance shops.

The TCLP test results of the sludge sample taken from dry-well #1 showed that the sample was well below the regulatory limits for hazardous waste for all 10 metals analyzed (See Appendix 4). Sludge from dry well #1 contained 11% total petroleum hydrocarbons (TPH) as oil and grease. Contaminated soils near the dry-wells which were removed and placed in drums contained 1.06% TPH as oil and grease. A sample of the water removed from dry-well #2 and stored in drums contained 1.6 ppm TPH.

8.0 SUMMARY AND CONCLUSIONS

Based upon the information obtained during this Level II ESA, The Johnson Company concludes the following:

Of the eleven soil borings drilled on-site, PID headspace tests of soils were above 5 ppm in only five locations. Wells were installed in four of the five "hot" locations, and a remedial investigation was performed at the fifth. Water quality data from the wells indicates that the groundwater has not been impacted by the known potential sources of contamination on-site. There is no evidence that any petroleum releases have travelled off-site via groundwater. No probable off-site surface water, surface water runoff, or atmospheric receptors are deemed to be currently endangered by Site activities.

Petroleum product was removed from the area of two dry-wells found during the investigation. Soil contamination near the aboveground storage tank and the east end of the collection ramp proved to be limited in volume and aerial extent.

The possibility of on-site contact with petroleum is limited to the shop area, and to the area including the wash water ramp and around the aboveground storage tanks during filling and pumping operations. This contact hazard is typical of construction equipment servicing operations.

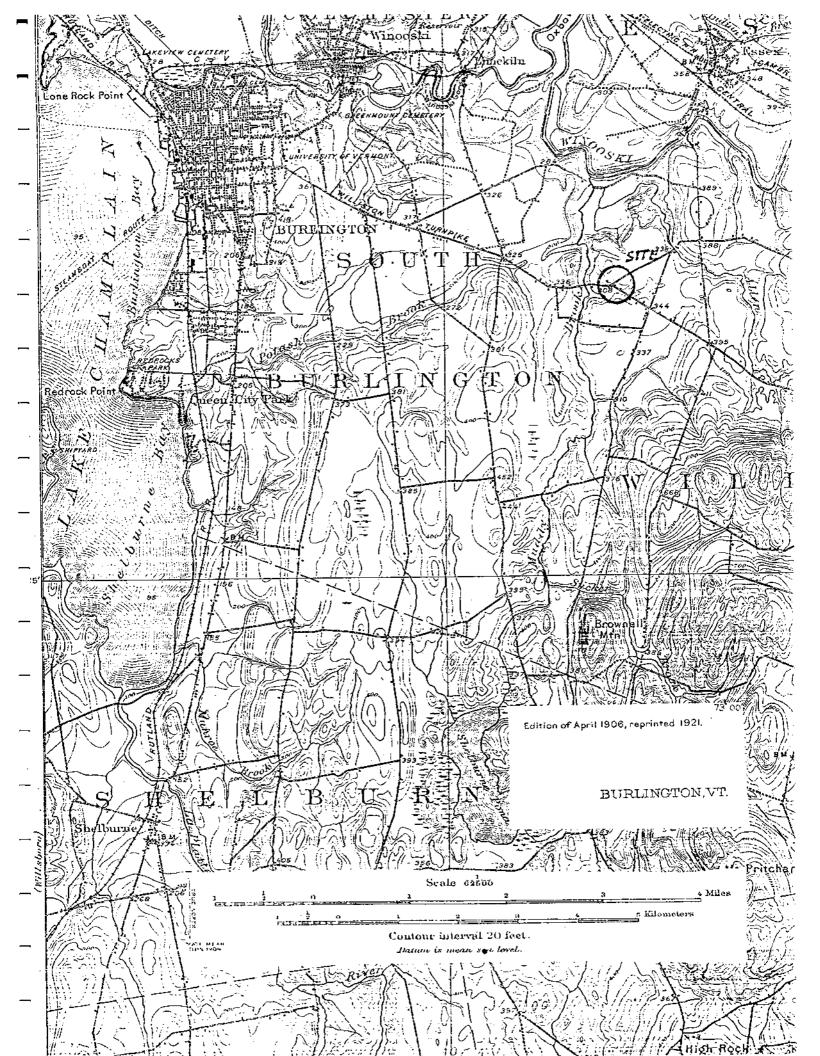
The subject site does have potential for releases, as do all similar industries, but observation of the site operations demonstrate a well-maintained facility and hazardous materials are well-managed.

The location of the former underground storage tanks south of the office building discovered during the ESA were not evaluated for their potential to release petroleum contamination to the environment.

Based on the results of the groundwater sampling, and on observations and data presented in this report, the operations at the New England Equipment property in Williston, Vermont have not resulted in impacts to groundwater or to surface water quality above applicable standards. Localized areas of petroleum contaminated soil were identified, however due to the nature and volume of the contaminants, these have not resulted in contaminant migration beyond the immediate area of the releases.

The results of this ESA are based upon a limited investigation whereby samples from eleven locations on the property were tested. The results of this ESA are intended solely for the use in evaluating what risk of environmental clean-up costs may be associated with obtaining possession of this property.

APPENDIX 1 Background Site Information



Level I ESA by Provan and Lorber

Linge ... V

APPENDIX A

ENVIRONMENTAL SITE ASSESSMENT - LEVEL I NEW ENGLAND EQUIPMENT CO., INC. WILLISTON, VERMONT

INTRODUCTION

An Environmental Site Assessment has been prepared for the New England Equipment Company contiguous lots #8, #15 and #16 currently used and developed to operate a John Deere sales and service franchise on Route 2 in Williston, Vermont. The 5.2 acre "parcel" has been utilized for construction equipment for over 30 years, and includes two permanent structures and associated utilities. The property is now under consideration by Grappone Industrial, Inc. of Concord, New Hampshire, or affiliate, and while it would be only acquiring inventory assets at this time, it will be leasing the site and have the option to purchase the real estate. The Environmental Site Assessment is a direct result of the liability and lien provisions of State law which holds the property owner responsible for environmental quality. The study provides a reconnaissance of the property and the surrounding area with a limited investigation of the site and surface conditions.

Environmental quality is governed by state and federal regulations for activities related to: Solid Waste (He-P 1901); Hazardous Waste (He-P1905); Air Quality (Air 100-1200); Buried Storage Tanks (Ws411); and Surface Water and Groundwater (Ws410). The Site Assessment focuses primarily on the potential impact on groundwater, the resource most vulnerable to the aforementioned activities. Air quality is not considered in this site assessment.

SCOPE OF SERVICES

The following Scope of Services was performed in accordance with the Terms and Conditions of Appendix C and the Study Limitations in Appendix D.

- 1. Performed a regional survey of the site to identify any source of off-site activities that may impact the site and conduct a review of CERCLIS and HWDMS to determine if any Superfund sites are within one mile of any of the sites.
- 2. Performed a walk-through to detect any obvious chemical odors and, by visual investigation of the site to observe any obvious instances of environmental contamination; identification of possible routes of entry of contaminants to the air, subsurface soils, or groundwater; and indicators for the possibility of spills, leaks or improper disposal.

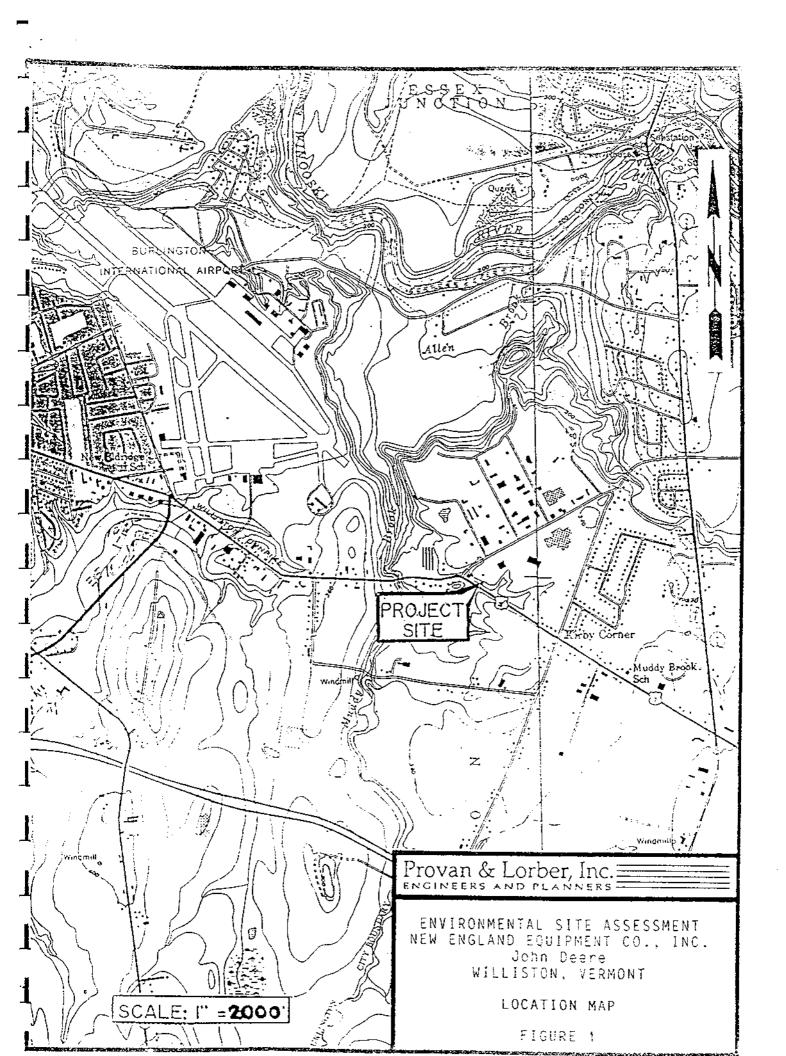
- 3. Provided a 50-year site history of use from public records, and from information supplied by Seller and/or the CLIENT.
- 4. Reviewed State of Vermont and local records/files for the site and surrounding properties to identify previous reports or registrations of hazardous waste generation or disposal, oil spills, and underground storage tanks (1,000 gallons or greater), and to determine if any site or abutting properties is on the National Priorities List or the State Inactive Hazardous Waste Site Registers.
- Serviewed the probable uses and waste disposal practices of fuel oils, hazardous or toxic materials on-site. ENGINEER will inspect the premises, both inside and out, and interview Seller's representatives to identify potential sources, discharge and disposal of contaminants; however, the inspection does not claim any association with building components, such as asbestos, pesticides, and other limitations itemized in Appendix D. ENGINEER inquired of Seller's representatives regarding Seller's knowledge and/or records regarding such components, etc. Seller, represented by Bob Williams and Frank Flora, did not provide ENGINEER with existing permits; tank testing results; correspondence with, reports to, and notices from regulatory agencies; community complaints; prior title searches; and/or site assessments and/or environmental audits.
- 6. Prepared a summary report to of the investigation, to include: site locations, regional survey, history of use, site plan, observations of walk-through inspection, Seller interview(s), and a project summary.

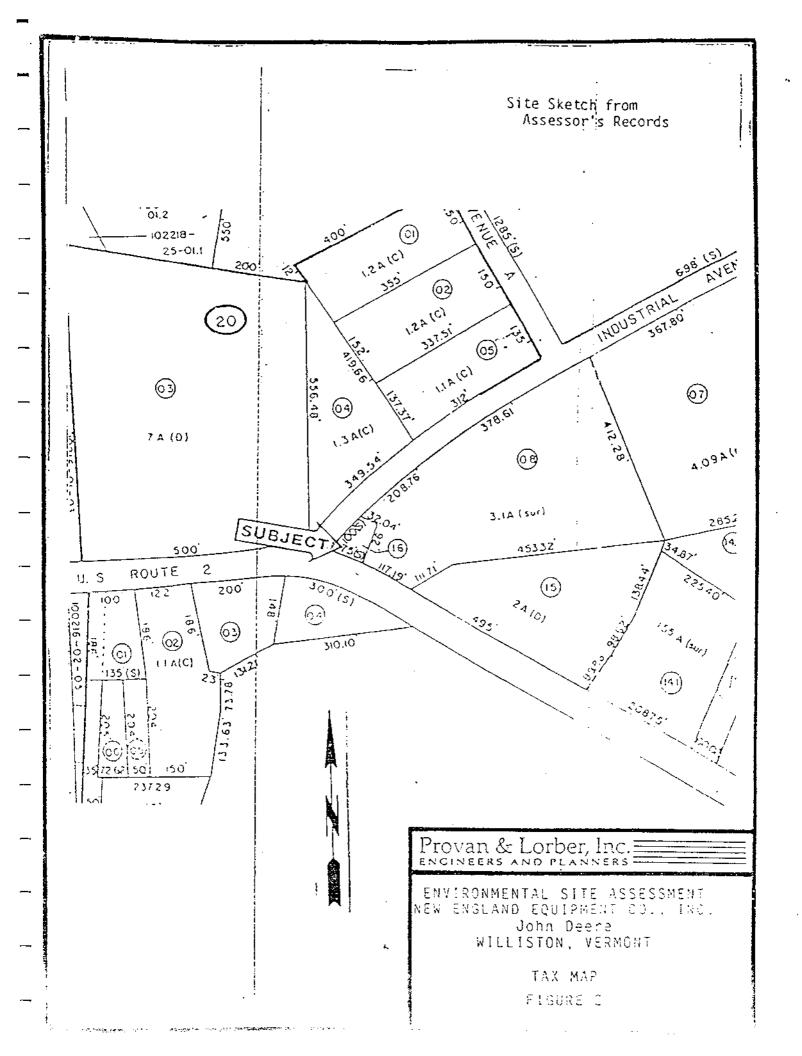
SITE LOCATION

The subject property is located at the junction of Route 2 (Williston Turnpike) and Industrial Avenue, approximately 4 miles easterly of the City of Burlington, Vermont. The parcel itself has frontage on both highways. The subject property is identified on Figure 1 - Location Map, and Figure 2 - Tax Map.

REGIONAL SURVEY

The regional survey involves a reconnaissance of the surrounding land to identify those aspects of the development and topography that may present a potential for an environmental problem to occur on the subject parcels.





The region is strictly commercial and industrial, although within a mile to the east, older residential communities exist. Zoning has selected the area for the development of the commercial and industrial owners who have recently relocated in the new parks. These entities include Johnson Filaments, Rossignol Ski, S.T. Griswold, Pike Industries, several printing establishments, Petrolane Gas, a rental storage area, marina, garden center, and Action Equipment Rental.

The type of lamp production and printing businesses immediately upgradient of the subject appeared to be very clean, as opposed to other construction materials activities nearby that may tend to impact soil and groundwater. The primary concern is the lack of municipal sewer, which requires all the separate entities to construct private subsurface systems to handle their waste stream. Although existing regulations controlling the disposal of chemicals, photo engraving accessories and other toxic prohibit their entry into the subsurface systems, there may not be reliable data to monitor this. Unfortunately, historic uses may continue to linger and be reported in an area long after the sources have ceased.

The Engineer is of the opinion that groundwater flows in a northwesterly direction, similar to the surface flow illustrated in Muddy Brook to the east of the subject. That being the case, the Munson Industrial Park (Sam's Liquidation Store - Lot 14.1), the undeveloped area (Lot 14.2), and Johnson Filaments (Lot 07) immediately upgradient of the subject would have little or no impact on its groundwater. The activities to the north (S.T. Griswold, Pike, excavation contractor, and Phoenix Distributors, an oxygen-acetylene gas supplier) tend not to influence the subject parcel.

There is municipal water in this area. Private utilities include telephone and electricity.

Under File Review (below) it will become evident that the industrial development in the area has been recently investigated, but within a one mile radius of the site, there are no active sites and no closed sites.

There will be no evidence produced as a result of this Level I assessment to indicate that the industrial sites described above effect the site; from a regional perspective, there is no other present development in the area which appears to adversely impact the site.

SITE HISTORY

A 50 year history of the site was requested of the Client and the Seller. There was no deeds or abstract available to the Engineer. Frank Flora, an employee with NE Equipment for 17 years, reported that prior to the present ownership and use going back some 30 years (1962) the property had been occupied by Campbell Construction, no longer in business.

The residence belonging to O'Brien (Lot #15) was acquired in (approximately) 1980; the house was razed and sand on Lots #8 & #15 was removed by Ormond Bushey contractors and used for borrow on highway construction project nearby.

SITE SURVEY

A physical survey of the site was conducted January 7, 1993. Most of the grounds were bare of snow. The Engineer met Bill Williams and Frank Flora of NE Equipment, and was accompanied by Flora throughout the visit. See Figure 3 - Site Plan & Photos.

SITE INVESTIGATION

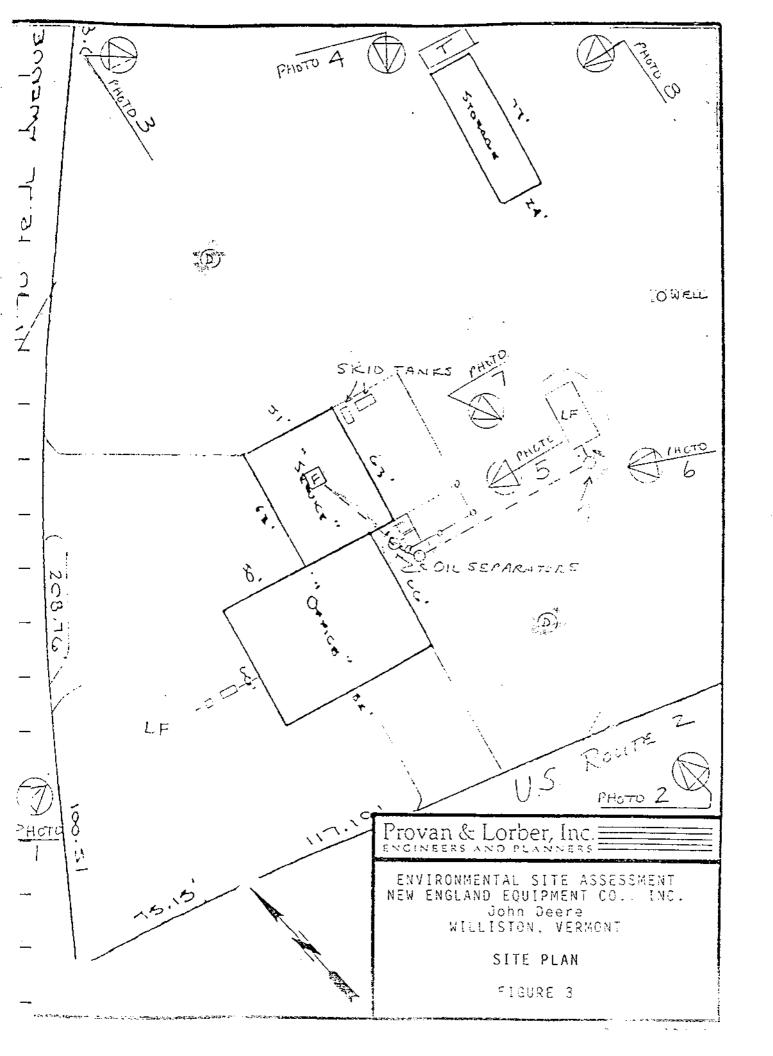
On January 7, 1993, PROVAN & LORBER, INC. conducted a walking visual inspection of the site to detect any obvious chemical odors and, by visual investigation of the site to observe any obvious instances of environmental contamination; identification of possible routes of entry of contaminants to the air, subsurface soils, or groundwater; and indicators for the possibility of spills, leaks or improper disposal.

Site Features:

The 5.2 acre parcel, comprised of three individual lots, is triangular in shape, with 687 feet of frontage along Route 2 and 686 feet of along Industrial Avenue. The other side is an interior lot line abutting Johnson Filaments and Sam's Liquidation Hardware and Tools to the east.

The subject property and Sam's Liquidation (Munson Industrial Park) site have been recently excavated for the sand and gravel deposits. Ormand Bushey and Sons Contractors removed the overburden on the subject along Route 2 about 5 years ago. This change in topography provides a large flat parking and storage area on the subject. The surface is basically unimproved, except for crushed stone surfacing in areas where materials are stored.

Two structures exist on the land. The large concrete block building contains the office, maintenance and parts activities. A smaller wood frame structure is used for storage of parts and materials. There is a truck trailer 40' box parked and used as storage for oil. Trailer was locked, but was reported to contain retail oil. Construction equipment is parked in the yard. Presently, in addition to the John Deere inventory, a roadway contractor (Morrill, North Haverhill, New Hampshire) is renting space for equipment and materials associated with work nearby.



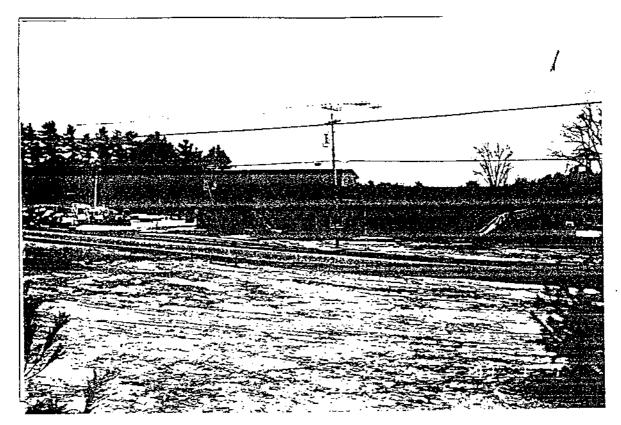


PHOTO 1: LOOKING ACROSS INDUSTRIAL AVE. MAIN SHOP UNDER HIGH ROOF METAL BUILDING, OFFICE AND PARTS IN LOWER BLOCK BLDG. DOMESTIC SEPTIC LEACHFIELD BY BACKHOE DISPLAY AND SIGN.

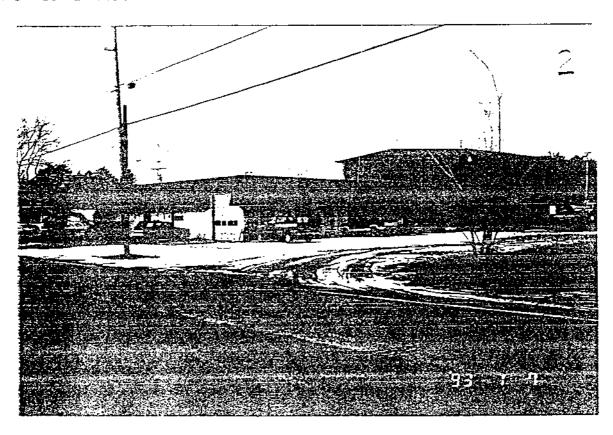


 PHOTO 2: LOOKING ACROSS ROUTE 2. CORNER OF LOWER BLOCK BLDG, PREVIOUSLY USED FOR PAINTING, ONE OF THIS DRY WELLS USED TO COLLECT SHEFFACE RUN-OFF LOCATED TO REAR OF GRAY DIEVY PICKUP.

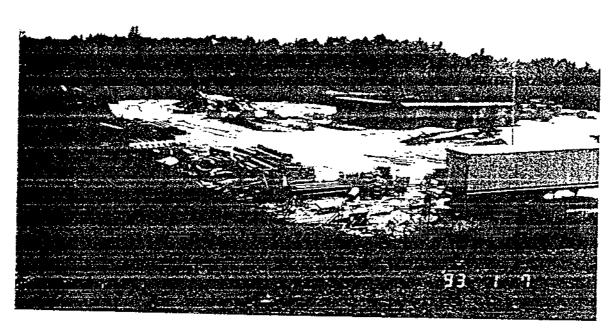
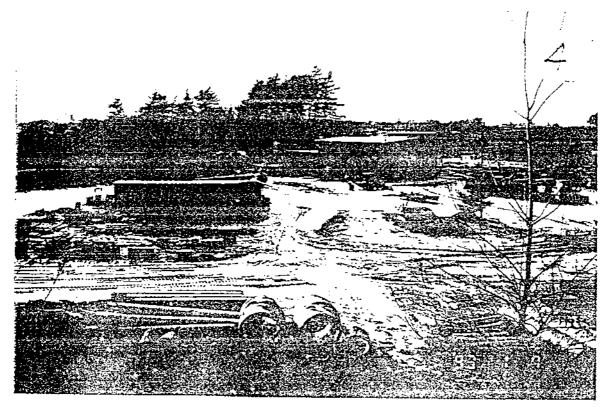


PHOTO 3: LOOKING SOUTH ACROSS REAR OF YARD. BROWN BLDG. AND BOX TRAILER USED FOR STORAGE BY OWNER. CONSTRUCTION MATERIALS AND WHITE BOX TRAILER IN FOREGROUND BELONG TO TRANSIENT CONTRACTOR RENTING STORAGE YARD SPACE.



TPHOTO 4: LOOKING WEST FROM PEAR OF LOT. GRAVEL AND DTUSHED STONE SURFACE
THROUGHOUTREATH OF THERE A META EQUIPMENT AND DISCUSSION OF A SECTION OF A DESTRUCTION OF A SECTION OF A SECTION

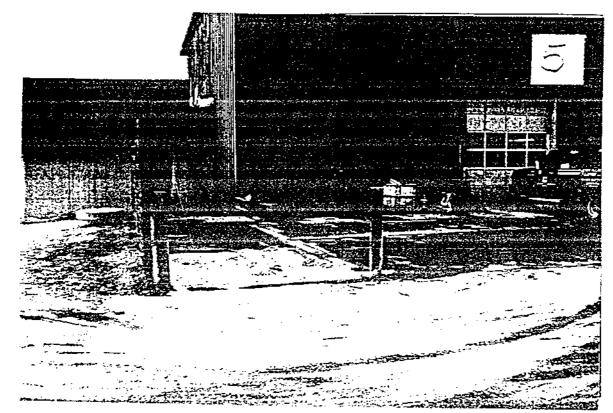
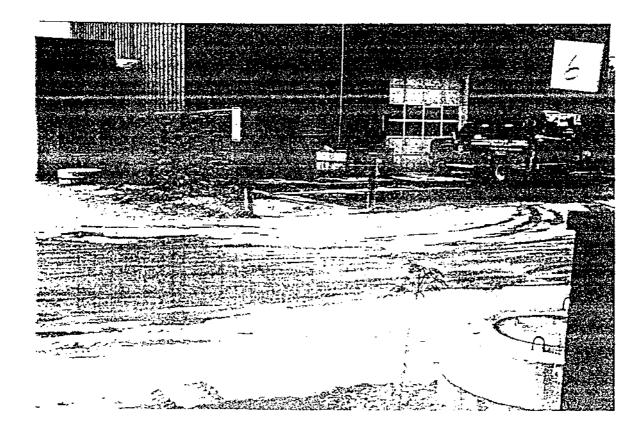


PHOTO 5: WASH RACK/OIL SEPARATOR, PICTURE SHOWS CONCRETE DEVICE THAT COLLECTS WASH WATER AND PIPES IT INTO 3 OIL SEPARATOR MANHOLES. AN INTERIOR FLOOR DRAIN IN THE MAIN SHOP IS ALSO CONNECTED TO THE SYSTEM.



- PHOTO BY AMOTHER AND LEED AND ELECTRICATED AND THEAT AND A SERVICE TORINAMENT LE



PHOTO 7: DISMANTLING CILWATER SEPARATOR MANHOLE #3. ENGINEER OBSERVED COATING OF ICE AND APPROX. 1/4" OF OIL FLOATING IN THIS STRUCTURE. FLORA INDICATED — THAT FILMS WERE REMOVED REGULARLY. DEVICE APPEARED TO BE WORKING.

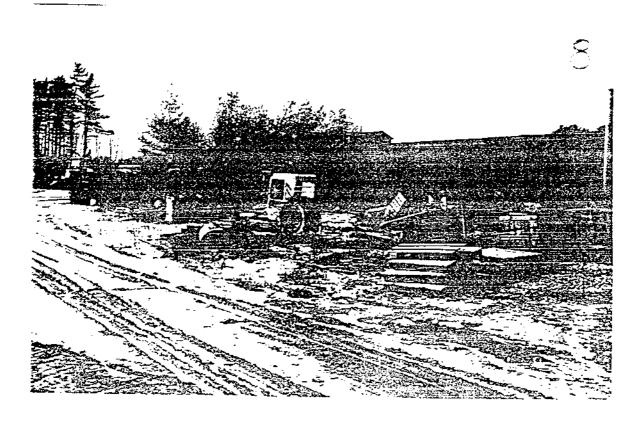
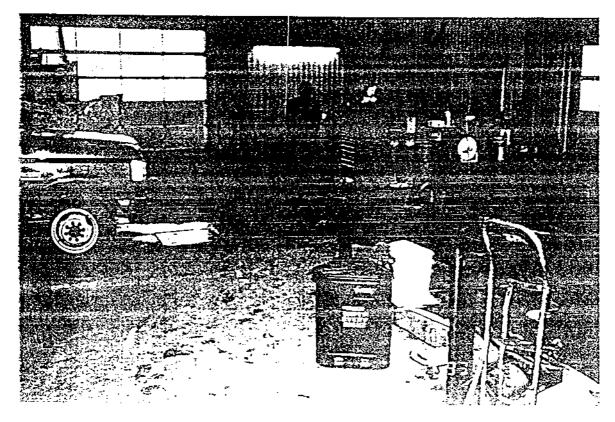


PHOTO 3: 10 ALL NOTE FAND OF TO EDUTE OF STORY OF THE CONTROL OF T

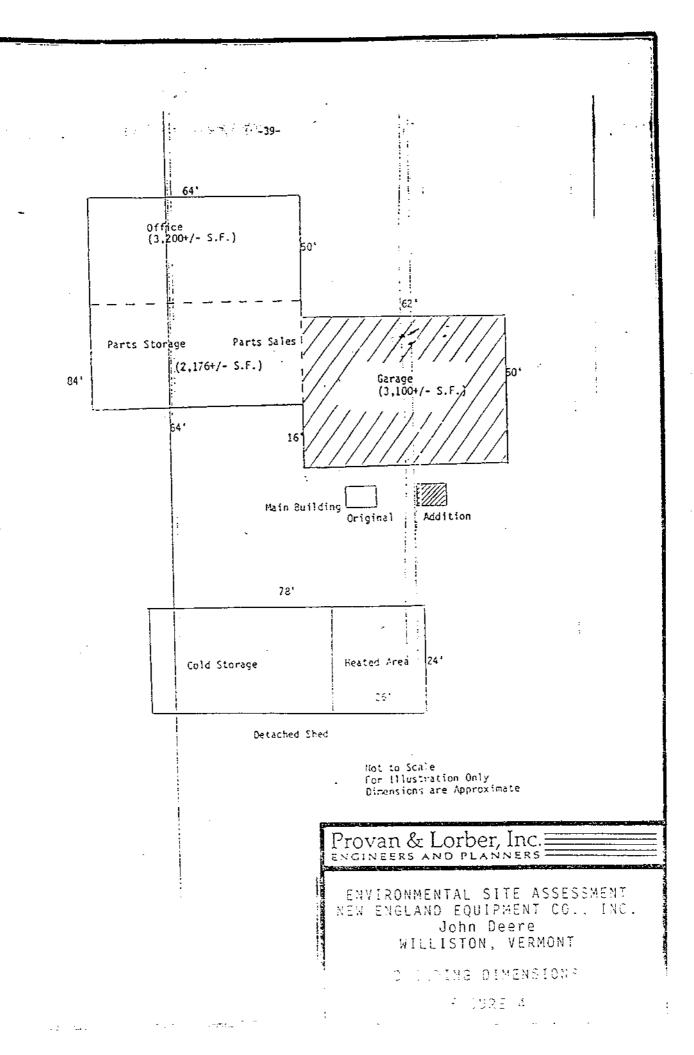
WILLISTON SHOP PICTURES



AREA ORGANIZEDTO PROVIDEMECHANICS WITH ANTIFREEZE, ELECTROLYTE, SPEEDI-DRIAND SAFE-T-KLEEN. CONTAINERS AVAILABLE FOR HAZARDOUS REFUSE, INCLUDING AEROSOL CANS AND CLEANERS.



LA OTURE SHI COLO CON CONCORNO DE VIDENTO SER NOVIDO DO DESTE DE LOS DOCES. O REPUBBLICA



The structures are supported with municipal water and private utilities, electricity and telephone.

The building itself, and the shop area was very clean and orderly.

The interior office space and parts room were neat and orderly. There were no observed floor drains. A paint room (southwest) had not been used recently, and there was some stored batteries and miscellaneous parts about. No signs of spillage and no floor drains. A small machine shop room containing lathes was clean. The maintenance bay was clean and had a floor drain that discharged into the oil-water separator described elsewhere. The primary focus in the maintenance bay was the mechanics' policies concerning handling of battery acid, recycling antifreeze, collecting used Speedi-Dri, controlling Safety Kleen (a hazardous waste), and disposal of used and broken parts, oil filters and aerosol cans. State records identify the Williston facility as a generator of approximately 125 pounds of mineral spirits (Safety Kleen) per month. New England Equipment is assigned EPA ID Number VTD00211045 for the registration as a small quantity generator. See Regulatory Review below for recent VT ANR RCRA inspection. Most all wastes aside from general office refuse has been assigned to contractors specializing in recycling and disposal, as they have not been accepted at the landfill for the past 3-5 years. The various waste contractors could be consulted for manifests if observations provoked further investigation. None were contacted. Flora stated there has never been a policy or procedure to bury these on-site.

Water:

Municipal water service is connected to the main building.

There is an existing capped well that used to support a house on Lot #15, but that hasn't been used since the structure was razed and sand removed. No existing monitoring wells were observed.

Wastewater:

There is a primary private subsurface septic system towards the front (west) of the office. There is a site specific oil water separator leading to its own leachfield on the side (south) of the maintenance bay. These devices are common practice and controlled in Vermont. A telephone conversation with Chuck Schwer, VT ANR (802-244-8702) confirmed that oil/water separators continue to be requested on all collectors exposed to contamination, such as the wash rack and the floor drains associated with the subject property.

The Engineer inspected the oil-water separator to identify its function and inspect its efficiency. Besides an exterior concrete apron attached to the interior floor slab, there is a collection ramp where wash water flows during the cleaning of machinery. The dirt settles to the bottom and the water and oil os skimmed from the top through 3/4" holes into a large septic tank. This tank empties by gravity into two manholes fixed with baffles, arranged to capture the floating oil but allow the water portion to pass. After the two manholes, water flows under the driveway to the last separation manhole prior to being distributed into a subsurface leachfield.

Flora assisted in removing the concrete cover to the last manhole. Under a light skim of ice, approximately 1/4" of oil was observed floating on the 2'9" water column. No toxic vapors were detected by the OVM field instrument. A small sample in a glass bottle showed that the oil floated to the surface, however, the water did not settle out and turn clear in 24 hours. Depending on the rate of flow through the system, some of this sediment may be deposited in the leachfield, causing premature failure and reducing its effectiveness. Flora indicated that the system was periodically cleaned by pumping off the oil and depositing it in the waste oil containers for disposal. System appeared to be working. Recent high rainfall had caused the collection ramp (tank) to overflow. Oil stains were observed in the grass besides the ramp. There was no other evidence visible to indicate whether any oil was carried to the nearby drywell in the driveway parking area.

The domestic septic system was recently reconstructed, being that the old steel septic tank had deteriorated. The plumbing discharges to the northwest corner facing Industrial Avenue, and the leachfield is located under the landscaped area to the front. A wooden cover over a "D" box was lifted, and no toxic vapors were detected by the OVM field instrument.

Storm Drainage:

Surface drainage relies on sheet drainage and percolation, assisted by two dry-weil basins (See site plan). Drainage can be easily described by the USGS map; basically the site is unaffected by indigenous runoff, except at the Industrial Park entrance driveway. Here, pavement has been constructed to accept any flow from the street and reroute it back into the ditchline just north of the office building. No apparent surface flowage upgradient would be considered polluted, unless an accident involving motor vehicles, occurred on the hill above. Instances of this nature should be reportable and cleaned up as they occur, but our file search did not disclose any reported incidents.

Solid Waste:

The dumpsters outside contained metal, wood, and general waste. Flora has been working with Tom Brothers at the State in an attempt to reduce solid waste. See Regulatory Review below.

Fuel Storage Tanks:

There are no existing underground tanks. Two skid storage tanks located on the concrete apron by the maintenance bay (southeast) are used in lieu of underground tanks. One is a 300 gallon waste oil tank, plumbed to the interior for convenience of the mechanics. The second is a 500 gallon diesel tank for the equipment. EPA requires spill prevention contingency plan on above ground storage exceeding 1,320 gallons. None required in this instance.

REGULATORY REVIEW

On January 12, 1993, Mary Denison of PROVAN & LORBER, INC. reviewed the files of the Vermont Department of Environmental Conservation and found no evidence of waste generators, oil spills, or incidents of hazardous materials associated with or linked to the property that would degrade the environmental quality. Files did not identify any hazardous waste handler in the vicinity that would impact the site, other than a registration of its own small waste generation.

New England Equipment Co., Inc. operates under EPA ID Number VTD002111045, and is registered for the generation of hazardous waste in the form of 125 pounds per month of mineral spirits (Safety-Kleen)

The file review did disclose that there were no active or closed Superfund sites within one mile of the subject property. A recent SSI completed in January 1991 at the Rossignol Ski Company 1/2 mile to the northeast was accepted by the State, and the file was closed.

No solid waste violations were reported on the subject property.

An inspection report dated February 8, 1988 (Appendix E) describes the current policy regarding the hazardous wastestream. The paint operation has ceased, because the Owner could not maintain the shop to OSHA standards; and the paint room has not been used for 3 years. The 2,000 gallon waste oil tank has been removed, although State records identified its contents as gasoline. Flora stated that neither tank was used for gas. Used Speedi-Dri or spent aerosol cleaning dispensers no longer goes in a dumpster, but is barrelled and stored for up to 180 days when a registered contractor is called for disposal.

Review of the underground fuel storage tanks indicate no perceived problems or reports. No underground storage tanks were registered for the subject parcel. The two 2,000 gallon tanks previously in use on the site containing gasoline and diesel were reported in the files of the Petroleum Division as being properly removed and disposed of in March of 1989.

The ENGINEER contacted the Town of Williston by telephoning the Town Clerk and being referred to Kenneth Morton, the Safety and Environmental Coordinator. He stated that the Town had no information concerning possible pollution of the site, and knew of no activities in the general region that would influence the environmental quality of the property. Upon questioning, he did relate the investigation of the Rossignol plant 1/2 mile away, but did see no significance of that release and the subject property.

The Seller or Frank Flora did not report any previous problems, or the existence of any environmental site assessments to the Engineer.

CONCLUSION

This assessment has identified one areas that has been visually observed where environmental quality is impacted. The oil stain by the wash ramp and oil-water separator should be explored and removed. Otherwise, there is no evidence that contamination exists on the property.

Without eluding to any hypothetical analysis, there is reason to believe that the oil-water separator has been a source of contamination to soil and groundwater. It is identified in this study as a possible route of entry of contaminants.

Other routes, not observed as polluted, but listed only as potential sources, are the two dry-wells located in the drives and parking areas. Parked equipment leaking onto the surface would eventually be carried into these areas where concentrations may exceed safe drinking water standards.

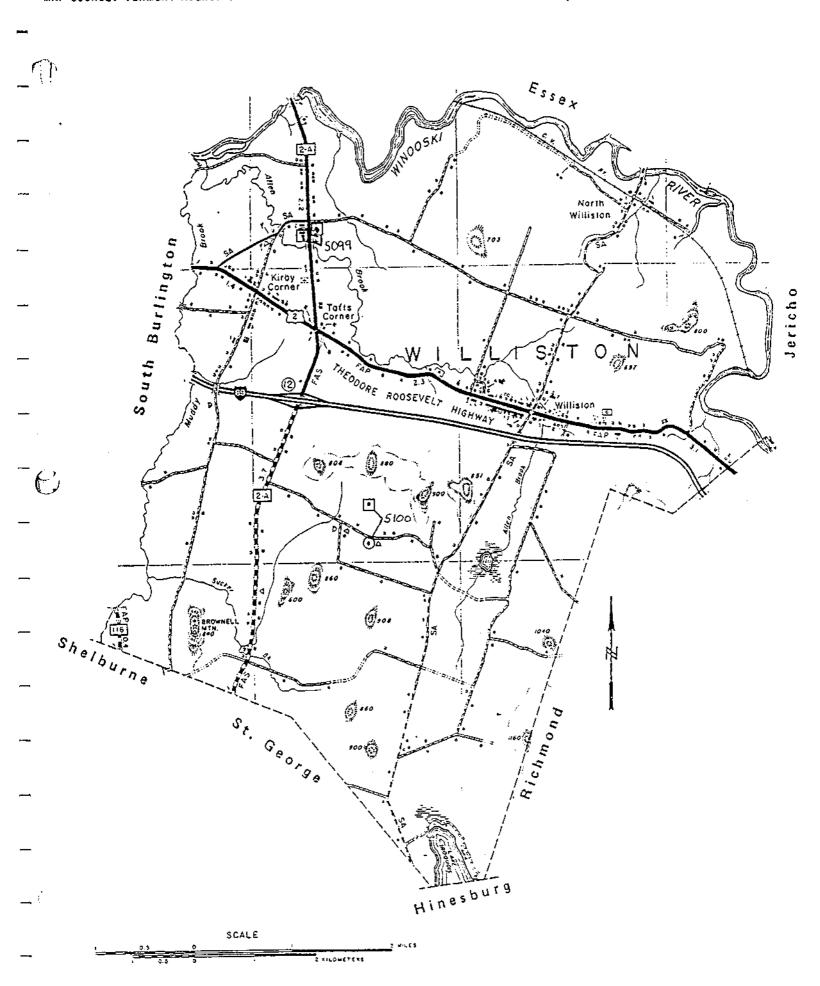
The sludge from the wash ramp is periodically removed. Final disposition and the analysis of this material is presently unknown to the Engineer.

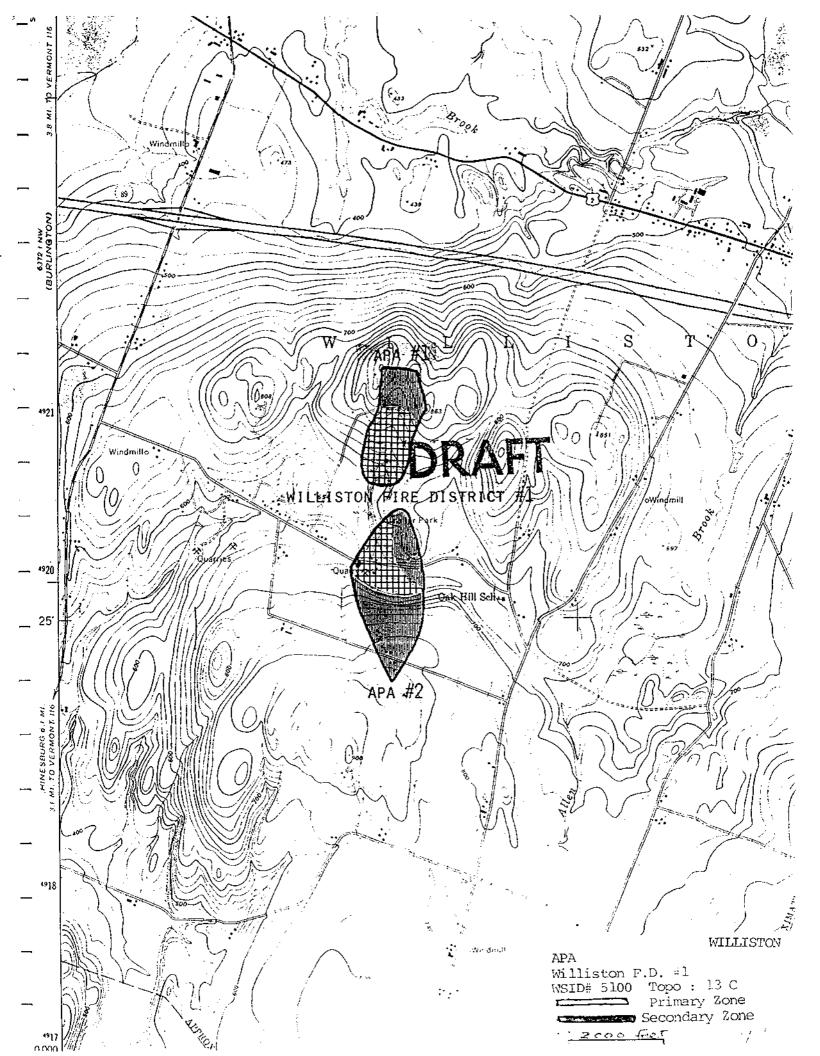
SUMMARY

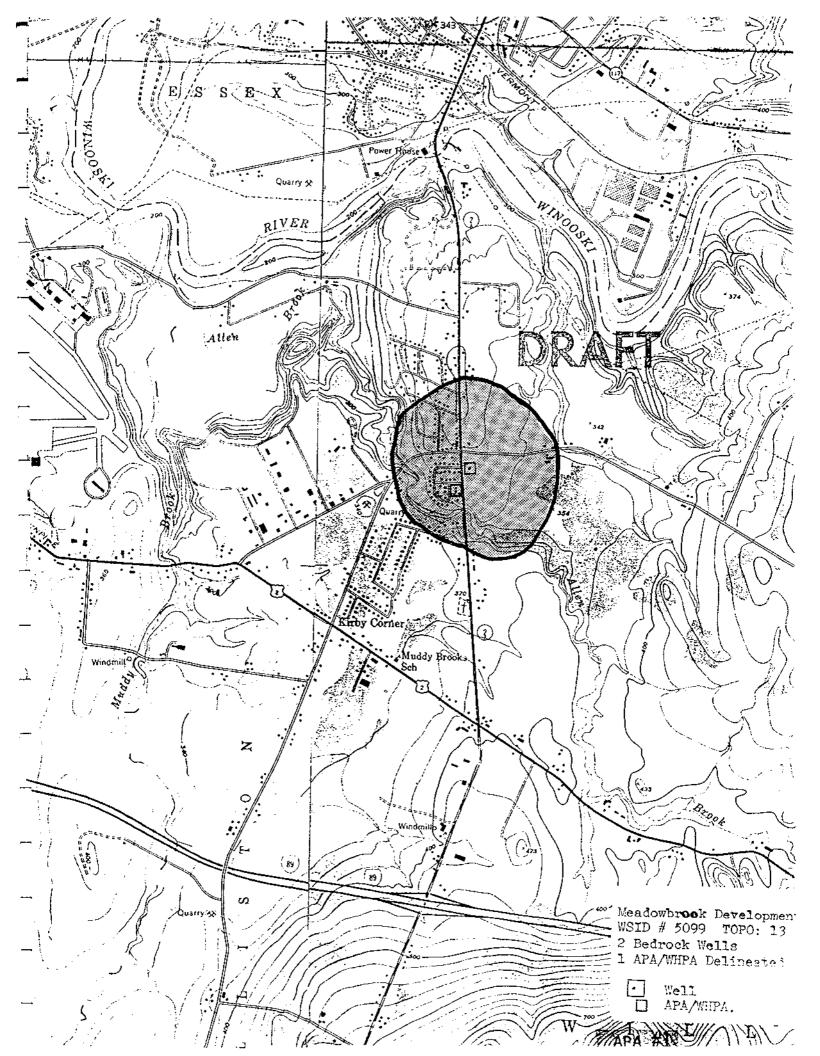
The results of this assessment are summarized below:

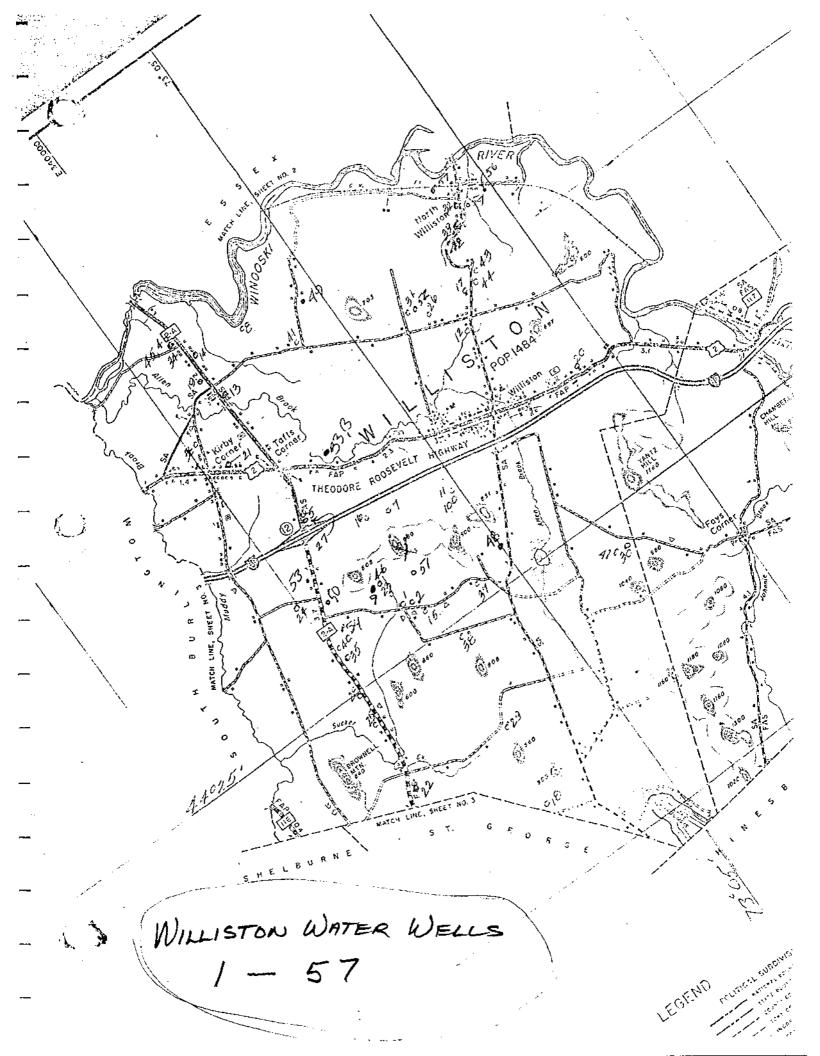
- Regional activity appears to have no existing impact on subject site. Level I does not obtain groundwater quality data. While no municipal sewer is available to the entities surrounding or including the subject parcel, there was no file data or reports during our research to indicate that groundwater in this area is an environmental problem. Area is served with municipal water.
- On-site inspection observed no critical instances of environmental contamination. Housekeeping was very clean and orderly.
- * File reviews at the State and Town levels identified no instances of environmental contamination presently affecting the subject property.

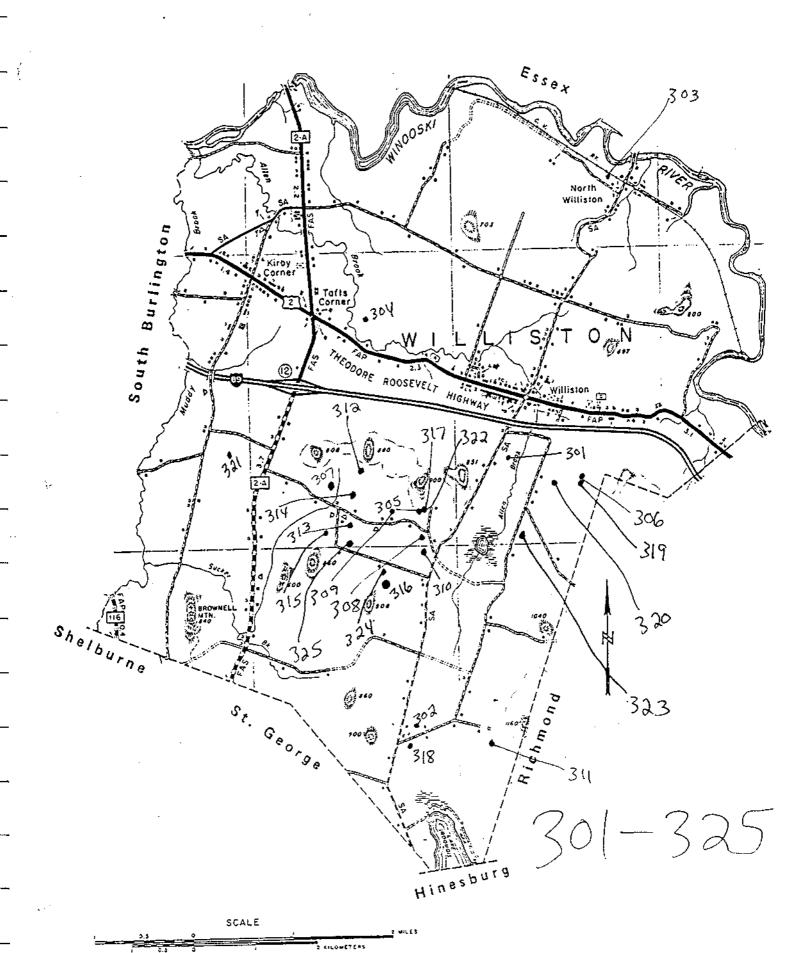
Water Supply Locations and Logs

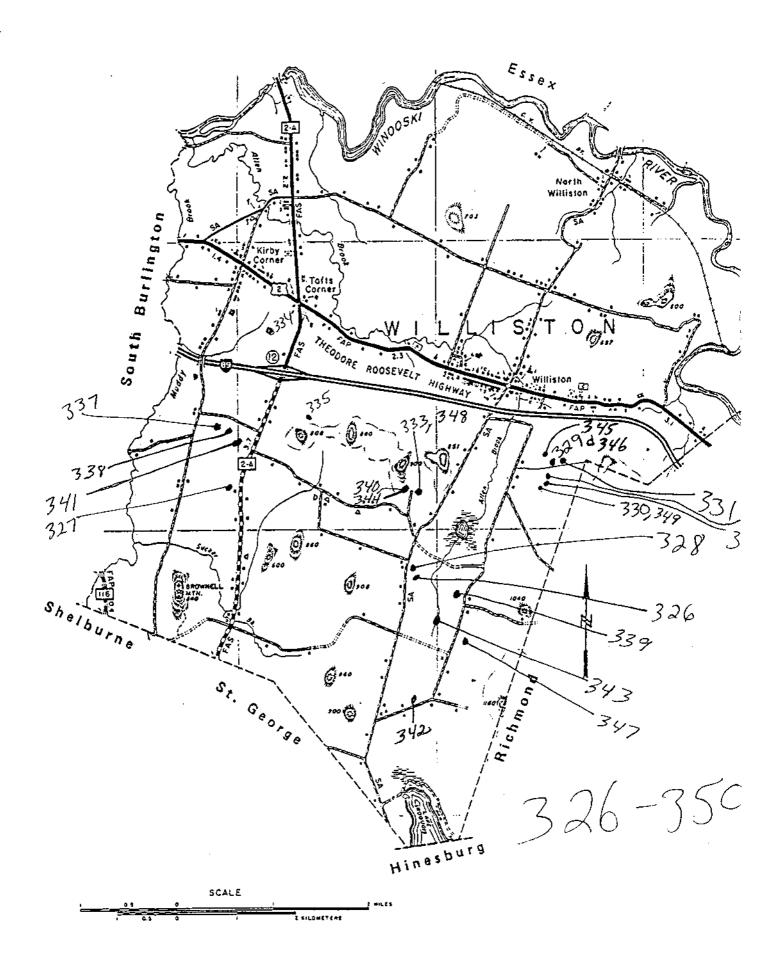












THE JOHNSON COMPANY, INC.

TELEPHONE CONVERSATION REPORT

				DATE:	11/4/93
				TIME:	8:15 am
CALL:	RECEIVED	,	PLACED		TO BE PLACED
SPOKE WITH:	James A	shley			
OF:	Vermont	Worter Su	poly DIVI	318n	
RE:	Private v	New #36	Williston	y well to	og report
NOTES:/	Mr. Ash ky In VT was	drilled	for Fo	WY Seas	ons
Garden	Center o	F Willi	ston. He	desiri	sed the
	og as foll				
	J				
		0-120'1	195 - 4	and clar	y and boulder
	1:	10'-400' [ngs	imestand	y and boulder. bedrock
	Mr Ashky	Lonbra	1 Hinck	ky's no	tes:
-Total	depth of			400'	
	reduces t				
	was drilled		1 1966-	-1974.	
	<u> </u>				
	Acquatical			1:- 4	n/ Lles/
COPIES TO:	Appendix 1	co	MPLETED BY:	1-17-11	TUE CY

State of Vermont DEPARTMENT OF WATER RESOURCES

La. 440 27'30" Alt 350 TS T Lo. 73007'03" | HU020\000 \$ Scale: 62500], 25000], 24000 \$

WRLL COMPLETION REPORT

#21

		WB	CLL COMPLI	ETION REPORT	7,
	(This report must be complet	ed and submitted	to	Ĺ	Do not fill in
	the Department of Water Re	sources, State Off	ice		State Well No. 440 27:17.
_	Building, Montpelier, Vermont 30 days after completion of we		ian		Other No. W. 13° 07'07"
	WELL OWNER Dan (1 brien		We	Eliston UT
_	WELL DRILLER	ime Eleu X So	nis Si	Mailing	Address Add at Ut
_	PROPOSED/USE OR USES (C	me		Mailing	Address
	V	icultural	☐ Business Establish	1 1 1/1/11/11/11/11	al [] Industrial
	Other (Specify use)	ewing			
	CASTING DETAILS (Inside)	YELD T	EST	WATER LEVEL (From land surface) (if possible)	SCREEN DETAILS
	Length: 60 Feet	☐ Bailed or	Hours	Static: Feet During Yield	Make:
		☐ Pumped or	GPM	Test: Feet	.1
_	Diameter: 6 Inches	Compressed A	Air	DRILLING EQUIPMENT	Material: Slot
	Kind: Steel			☐ Cable Tool	Size
	101116			☐ Rotary	Length: Ft.
	Weight: /9/46 lbs/p/ft			☐ Air Percussion	Diameter: in.
_	New Used	Yield: 75	GPM	Other (specify)	
_	TOTAL DEPTH OF WELL	205	FEET		ED IN: Williston cation on reverse side of sheet)
			WELL	. LOG	
_		la:			
	Depth From Ground Surface		estone, grani	ite, etc. Include size of gravel	, silt, sand, gravel, clay, hard- (diameter) and sand (fine, me- l, cemented, hard). For exam- t. gray granite.
	0 ft. to 5/ f	it. san	d + -	elay	
_	5/ ft. to 205 f	et. leme	stous	\forall	
			200-45		
	ft. to	ft.			
	ft. to	ft			
_	ft. to	ft.			
_	•		If yield	YIELD TEST DATA IN G.P.: was tested at different depth List Below	
	f	ft.		G.P.M.	·
_	- f	ft.		G.P.M.	
		ft.		G.P.M.	
	Has sample of well water beer	analyzed?			
	Where was sample analyzed?	onelwed by 41	u 4han D	nturant of Wilder December 1	
	(Include analysis of sample if Date Well was Completed	analyzed by other	r than Depai	Date of Report 7-7-	67 10
	-			Wall Della	ely & Sous Duc
	Water Well Driller's License	No. /8		Well Driller	ection of the same

| State of Vermont | Scale:62500 | ,25000 | ,24000 | |

WELL COMPLETION REPORT

_			•	
(This report must be complet			Γ	Do not fill in
the Department of Water Re Building, Montpelier, Vermon				State Well No. 73° 28' 58" Other No. W. 73° 26' 58"
30 days after completion of w				Other No. W. 73" 06" 58"
WELL //	12 1		/,) :	111- F 1/F
OWNER Jarry Na	Malyrus	<u>/</u>		Address / /
WELL (/()		0 5	2 27.	1 + BA111
DRILLER	ne -	fons t	UC /YCG Mailing	Address
PROPOSED USE OR USES (C			(//	
Domestic	icultural	Business Establish	1 011111101111	al 🔲 Industrial
Other (Specify use)		Establist	interio	
CASTING DETAILS			WATER LEVEL	
(Inside)	YIELD I	CEST	(From land surface)	SCREEN DETAILS
		<u> </u>	(if possible)	
Length: 140 Feet	☐ Bailed or	Hours	Static: 60 Feet	Make:
, (1)	☐ Pumped	GPM	During Yield Test: Feet	
Diameter: 6 Inches	or Compressed	·	DRILLING EQUIPMENT	Material:
Winds Start	, 		☐ Cable Tool	Slot
Kind: Heel			☐ Rotary	Length: Ft.
Weight: 19,45 lbs/p/ft				~~~~~
			☐ Air Percussion	Diameter: in.
☐ New ☐ Used	Yield: /2	GPM	☐ Other (specify)	
TOTAL DEPTH OF WELL	290	FEET	TOWN WELL IS LOCAT	ED IN: (1). 'Ell'alor
— TOTAL BIR III OF WELL	Q / U	r mar		cation on reverse side of sheet)
		WELL	. 1.0G	
	Give description	on of formati	ons penetrated, such as: peat	, silt, sand, gravel, clay, hard-
Depth From Ground Surface	dium, coarse)	estone, gran color of mat	ite, etc. Include size of gravel erial, structure (loose, packed	(diameter) and sand (fine, mel, cemented, hard). For examt, gray granite.
	ple: 0 ft. to 27	ft. fine, packe	ed, yellow sand; 27 ft. to 134 f	t. gray granite.
O ft. to 130	it. San	d lot	ay Kardnan	
	Et. Len	to	fodoe	
, ,				
ft. to	ft.		<i>V</i>	
ft. to	ft.			· · · · · · · · · · · · · · · · · · ·
ft. to	ft.			
10, 10			YIELD TEST DATA IN G.P.	
_		If yield	was tested at different depth List Below	during drilling,
		 	List Delow	
	ft.		G.P.M.	
_	ft.		G.P.M.	
	C4		a Dit	
	ft.		G.P.M.	
Has sample of well water bee	n analyzed?			
Where was sample analyzed?				
(Include analysis of sample in	analyzed by other	er than Depa		a / 87
Date Well was Completed 3	-12-67		Date of Report 3-12	1-67 2000
Water Well Driller's License	No. 15		Well Driller	Leeley Res
	10		Trunger of the state of the sta	ature)
			JU	Leeley Mes
			U	

natus 📆 dividu

DEPARTMENT OF WATER RESOURCES

WELL COMPLETION REPORT #34 Do not fill in (This report must be completed and submitted to State Well No. 44, 28, 27 the Department of Water Resources, State Office Building, Montpelier, Vermont 05602, no later than Other No. 7.3 66 51 60 days after completion of well.) WELL OWNER DRILLER PROPOSED USE OR USES (Check): Business Domestic ☐ Agricultural ☐ Municipal Industrial Establishment Other (Specify use) WATER LEVEL CASING DETAILS SCREEN DETAILS YIELD TEST (From land surface) (Inside) (if possible) □ Bailed 28 Hours Static: Feet Feet Length: orMake: During Yield □ Pumped Test: Feet **GPM** or Diameter: Inches DRILLING EQUIPMENT Material: Compressed Air Slot ☐ Cable Tool Kind: Size P Rotary Length: Ft. Weight: lbs/p/ft Air Percussion Diameter: in. New 30 ☐ Used ☐ Other (specify) Yield: **GPM** TOWN WELL IS LOCATED IN: (L) TOTAL DEPTH OF WELL FEET (Make sketch of well location on reverse side of sheet) WELL LOG Give description of formations penetrated, such as: peat, silt, sand, gravel, clay, hard-pan, shale, limestone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse) color of material, structure (loose, packed, cemented, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite. Depth From Ground Surface YIELD: Tunt over Jaru

This way be It! ft. ft. to 7 ft. to ft. ft. ft. to ft. ft. to ft. ft. ft. Has sample of well water been analyzed? Where was sample analyzed? (Include analysis of sample if analyzed by other than Department of Water Resources.) Date Well was Completed / /2ょん9 Date of Report Water Well Driller's License No. Well Driller

148 -91N

State of Vermont DEPARTMENT OF WATER RESOURCES

Form WR-59

WELL COMPLETION REPORT

			_	WK1# 40
This report must be completed the Department of Water Resonant Building, Montpelier, Vermont 6—60 days after completion of well	ources, State Office 05602, no later than			Do not fill in State Well No. 4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4
WELL				
OWNER Mam	ne Kau-Iman		Spear St. S Mailing	South Burlington, Ut.
WELL -DRILLER -DRILLER	Manosh Con	.p.	Morz	Address Soille, Of- Address
PROPOSED USE OR USES (Che		,	Mailing	Address
☐ Domestic ☐ Agricu	uitural 🔛 E	Business Establish		l [] Industrial
☑ Other (Specify use) Tra	ika Bak	Wel	l #3	
CASING DETAILS (Inside)	YIELD TEST		WATER LEVEL (From land surface) (if possible)	SCREEN DETAILS
1 1	☐ Bailed	Hours	Static: Feet	
Length: Feet	or □ Pumped		During Yield	Make:
- Diameter: 5 Inches	or	GPM	Test: Feet DRILLING EQUIPMENT	Material:
١, ٢٠٠	X Compressed Air		☐ Cable Tool	Slot
Kind:				Size Length: Ft.
Weight: Residue			Rotary	Longui. Pt.
				Diameter: in.
New Used	Yield: 5	GPM	Other (specify)	
TOTAL DEPTH OF WELL	697	FEET		
-			·	ration on reverse side of sheet)
		WELL	. LOG	Willieton
Depth From Ground Surface	pan, shale, limestor dium, coarse) color	ne, grani of mate	te, etc. Include size of gravel	, silt, sand, gravel, clay, hard- (diameter) and sand (fine, me- , cemented, hard). For exam- t, gray granite.
ft. to ft.				
ft. to ft.			·	
ft. to ft.	.	•		
ft. to ft.				
- 496 = ft. to 697 ft.	1 1 1		mala Ll. I	
	The second second	f yield	YIELD TEST DATA IN G.P. was tested at different depth List Below	
ft.			G.P.M.	
ft.			G.P.M.	
ft.			G.P.M.	***************************************
Has sample of well water been				
Where was sample analyzed?				
(Include analysis of sample if a		an Depar		1
Date Well was Completed 3	120/62		Date of Report 3/25	162
Water Well Driller's License N	o. 8		Well Driller H. A.	Manos L
				Mand
-			JA HI	WATER THE MANAGES AND

_ Water Well Driller's License No. 8

WELL COMPLETION REPORT

the Departn	nent of	Water Re	sou	and submitted erces, State Off 602, no later th	ice		Do not fill in State Well No. 142830 Other No. 13.04.55
30 days afte							
WELL OWNER	Agwa	v, Inc.				Beex	Jet., Vermont
WELL DRILLER		Na	ime			Mailing	g Address svilke, Vermont
_			ıme			Mailing	Address
PROPOSED		·			Business	/ To Manaisin	al D Industrial
_ Domestic		Agr	ıcui	turai	Establish	ment	al Industrial
Other (S		·				WATER LEVEL	1
CASTIN	NG DE! Inside)	rails		YIELD T	EST	(From land surface) (if possible)	SCREEN DETAILS
Length:		Feet		Bailed	Hours	Static: Feet	37.1
Lengen.	90_	reet		or Pumped	an.	During Yield Test: Feet	Make:
Diameter:	6_	Inches		or Compressed A	GPM Air	DRILLING EQUIPMENT	Material:
Kind:				, <u>-</u>		☐ Cable Tool	Slot Size
Killu.	<u>Steel</u>		·		!	☐ Rotary	Length: Ft.
Weight: 1	9.45	lbs/p/ft				Air Percussion	Diameter: in.
New New		☐ Used	7	Yield: 3	GPM	Other (specify)	W,//:5/27
TOTAL DEI	тн ог	WELL		2251	FEET		ED IN Essex, Vermont cation on reverse side of sheet
					WELL	•	
	Depth I	rom urface		pan, shale, lim dium, coarse)	estone, grani color of mate	te, etc. Include size of grave	t, silt, sand, gravel, clay, hard I (diameter) and sand (fine, me I, cemented, hard). For exam It, gray granite.
1	ft. to	5	ft.	Gravel			
	ft. to	85	ft.	Blue_Cla	<u>v & Boulde</u>	rs.	
- 85	ft. to		ft.		,	e	
150	ft. to	225	ft.	Dark Gra	у		
	ft. to		ft.				
_					If yield	YIELD TEST DATA IN G.P. was tested at different depth List Below	
			ft.			G.P.M.	
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	ft.			G.P.M.	
4			ft.			G.P.M.	16
_Has sample	of well	water bee	n ar	nalyzed? No			•
Where was (Include an	sample alysis o	analyzed?	f an	alyzed by othe	r than Depai	riment of Water Resources.)	
Date Well v	_	_	_		-	Date of Report 10/2/70	

Well Driller H.A. Manosh (signature)

1304

State of Vermont DEPARTMENT OF WATER RESOURCES

Field Loc Wap Des 3C-4

La. 44°27'36" Alt 575 TSS

Lo. 73°04'10" | HU 02010003

Scale: 62500 | ,25000 ,24000 | 3

WELL COMPLETION REPORT

	the Departs	ment of	Water Re	ted and submit esources, State	Office			Do not fill in State Well No. 44 27 26
	Building, M 30 days after	_	•	t 05602, no late	r than			Other No. 73 04 13
	WELL	or comp	letion of w	en.)				
	OWNER	Henry	House				Town Rd.,#12, W	illiston, Vt.
_	****** *		Na	ame	•	** **	* · · · · · · · · · · · · · · · · · · ·	Address
	WELL DRILLER	Welco	Divis:	ion of Equi	pco I	nc.	Essex Jc	t., Vt.
	<u> </u>		Na	ame			Mailing	Address
	PROPOSED	USE O	R USES (C	Check):			,	
	X Domestic	:	☐ Agr	icultural	1 1	usiness Istablish	(1,11,10,10,10,10,10,10,10,10,10,10,10,10	al 🗌 Industrial
	□ Other (S	pecify u	se)					
	CAST	NG DET	TATI S			···	WATER LEVEL	
	1	(Inside)		YIELD	TEST		(From land surface)	SCREEN DETAILS
	.	<u> </u>		CX Delle 3			(if possible)	
_	Length:	13'	Feet	Bailed or		Hours	Static: 3½ Feet	Make:
			······································	☐ Pumped	2	1/3	During Yield Test:Bottom 90 Feet	
	Diameter:	6''	Inches	or Compresse	d Air	GPM	DRILLING EQUIPMENT	Material:
_				Compresse	u All		Mr. Cable Tree!	Slot
	Kind: Sir	igle					X Cable Tool	Size
_	***		 ((s.				☐ Rotary	Length: Ft.
	Weight:	19	lbs/p/ft				☐ Air Percussion	
	∑ New				1.0			Diameter: in.
	M New	·	☐ Used	Yield: 2 1,	3	GPM	Other (specify)	
	TOTAL DE	PTH OF	, MELT	90		FEET	TOWN WELL IS LOCAT	ED IN:
_	•			·			(Make sketch of well loo	cation on reverse side of sheet)
						WELL	. LOG	
_								
_	Gi	Depth Fround S	rom urface	pan, shale, l dium, coarse	imeston e) color	e, grani of mate	te, etc. Include size of gravel	, silt, sand, gravel, clay, hard (diameter) and sand (fine, me l, cemented, hard). For exam- t, gray granite.
	0_	ft. to	8	ft. Hardpar				
	8	ft. to	90	ft. Shale		iet		
				- Duate (71 3011	1436		
		ft. to	-	ft.				
		ft. to		ft.		·		
	•	ft. to	:	ft.				
		<u>-</u> .					YIELD TEST DATA IN G.P.	
_	_				If	yield v	was tested at different depth List Below	during drilling,
			.				List Delow	
		···	20	ft. 1/2			G.P.M.	
_	·		34	ft. 1/2			G.P.M.	
14	•		85	ft. 1 plus	3		G.P.M.	
	Has sample	of well	water has	n analyzed? No	`	·-·.		
4	•			i anatyzeu: NC	,			
	Where was (Include and	sample alysis of	analyzed? sample if	analyzed by ot	her than	ı Depar	tment of Water Resources.)	
•	Date Well v	as Com	pleted 5	June 68			Date of Report 11 June	68

Water Well Driller's License No. 2

AP Poeder

(signature)

Well Driller

State of Vermont DEPARTMENT OF WATER RESOURCES

Form WR-59

WELL COMPLETION REPORT

щ	17
Ŧ-	15

(This report must be complete		ſ	Do not fill in
— the Department of Water Res Building, Montpelier, Vermont	State Well No. 440 27 '56"		
60 days after completion of we			Other No. 10- 73 06:43"
- WELL	√)	1	Ú
OWNER / Conny	Birauna	Leruk	o ; UT
_ WELL // Naf	ne	() Mailing	Addréss
DRILLER H. C. M.	word Cord	marsi	will the
Nan PROPOSED LISE OF LISES (Ch	ne /	Mailing	Address
PROPOSED USE OR USES (Ch	Duginose		•
☐ Domestic ☐ Agric	cultural	N/ aasa i aa aa	al 🔲 Industrial
_ Other (Specify use)	veranul		
CASING DETAILS		WATER LEVEL	
(Inside)	YIELD TEST	(From land surface)	SCREEN DETAILS
	C Poited	(if possible)	
Length: / 74.7 Feet	Bailed 6 Hours	Static: Feet	Na-les 12 /
_	☐ Pumped	During Yield Test: Feet	Make:
Diameter: (Inches	or /2_GPM	DRILLING EQUIPMENT	Material:
7	Compressed Air		Slot
- Kind: Stock		☐ Cable Tool	Size
		☐ Rotary	Length: Ft.
Weight: / 7 4/5 lbs/p/ft		Air Percussion	
New Used		7	Diameter: in.
Vew Used	Yield: / 2 GPM	Other (specify)	
TOTAL DEPTH OF WELL	ろゎの FEET	TOWN WELL IS LOCATI	ED IN: Williston
			ation on reverse side of sheet
_	WELL	LOG	
3			
 Depth From 	Give description of formation	ons penetrated, such as: peat,	silt, sand, gravel, clay, hard
Ground Surface	dium, coarse) color of mate	rial, structure (loose nacked	(diameter) and sand (fine, me
	ple: 0 ft. to 27 ft. fine, packe	d, yellow sand; 27 ft. to 134 ft	gray granite.
- 0 ft. to 4/ ft.	F		
		00 ()	
:ft. to/6 & ft.	Brawn - Th	the clay	
_/ 18 ft. to / 8,2 ft.	Lamestono	med	
- /82 ft. to ft.	D. 1)	1	
$-\frac{82}{\text{ft. to}}$ ft.	Rock saft	<u> </u>	
ft. to ft.	ι		<u>. </u>
_	Ye winted a	YIELD TEST DATA IN G.P.M	
	ii yieid v	vas tested at different depth of List Below	luring drilling,
-			
ft.	· · · · · · · · · · · · · · · · · · ·	G.P.M.	
ft.		G.P.M.	
ft.		G.P.M.	
Has sample of well water been a			
	inalyzed?		
WHELE WAS SAIMHE ANALOGOV			
Where was sample analyzed? (Include analysis of sample if a		tment of Water Resources.)	
- (Include analysis of sample if as	nalyzed by other than Depar		ブ
- (include analysis of sample if a	nalyzed by other than Depar	tment of Water Resources.) Date of Report 2-24-6 Well Driller 26.65	

Lo.73006'47"	1 HU 0201 0003 ,25000[],24000 X
Scale:62500[]	,25000[],24000 X

-	State of Vermont DEPARTMENT OF WATER RESOURC	Lo. 73006'47" [] HU 0201 000 Scale: 62500[], 25000[], 24000
-	WELL COMPLETION REPORT	#
(This report must be completed and the Department of Water Resources Building Montpelier Vermont 05602.	, State Office	State Well No. 730 28

(This report must be complet	ed and submitted to		Do not fill in					
- the Department of Water Re	State Well No 736 28 16" Other No. 16. 445.06.46"							
Building, Montpeller, Vermont 30 days after completion of w	Building, Montpelier, Vermont 05602, no later than Building after completion of well.)							
- WEY I	me Mill	W. Le Mailin	g Address /					
	me Cary	-						
PROPOSED USE OR USES (C		Mailin	Address VT					
–	Business		al [Industrial					
Other (Specify use)	Establish	iment						
CASTING DETAILS		WATER LEVEL						
(Inside)	YIELD TEST	(From land surface) (if possible)	SCREEN DETAILS					
Length: / 8 9 / Feet	Bailed 4 Hours	Static: / > 1, Fee	Make: //					
Diameter: 6 Inches	Pumped or 1.5 GPM	Test: Fee DRILLING EQUIPMENT	t Material:					
/)	☐ Compressed Air	☐ Cable Tool	Slot					
- Kind: 57 eef		Rotary	Size Length: Ft.					
		Air Percussion						
New Used	Yield: /5 GPM	Other (specify)	Diameter: in.					
TOTAL DEPTH OF WELL	235 FEET							
		•	ocation on reverse side of sheet					
	WELI	L LOG						
Depth From Ground Surface	pan, shale, limestone, gran dium, coarse) color of mat	ite, etc. Include size of grave	it, silt, sand, gravel, clay, hard el (diameter) and sand (fine, me d, cemented, hard). For exam ft. gray granite.					
	ft. Lond							
/ 4/ ft. to / 7/	ft. Belie	las Lon	lpon					
172 ft. to 286	ft. Bock for	and group						
- 2/7 ft. to 235	ft. Bock 1	brown - 2	v<7?					
ft. to	ft.		1					
		YIELD TEST DATA IN G.I was tested at different dept						
	- Julia	List Below						
_	ft.	G.P.M.						
	ft.	G.P.M.						
<u></u>	ft.	G.P.M.						
⁴ Has sample of well water bee	n analyzed? んノィ.							
Where was sample analyzed?			•					
Include analysis of sample i	f analyzed by other than Dena	rtment of Water Resources.)						

(Include analysis of sample if analyzed by other than Department of Water Resources.)

Date Well was Completed Dec. 7/1966 Date of Report January Spills Completed Water Well Driller's License No. Well Driller Jel. M. January Spills Completed Sp

WELL NO. / TAG NO. (For Ortifor's Use)

This report must be completed and submitted to the Dagar Iment of Environmental Conservation 103 South Main Street (10 kt), Waterbury, VI 13676 no later than 60 days after completion of the well

State of Vermont Dept. of Environmental Conservation 103 South Main Street (ION) Waterbury, Vt. 05676 WELL COMPLETION REPORT

FEB 2 1 1992 Location map attached to WCR DEPARTMENT USE ONLY

E.C. 33 Y U.S.G.S.

Field Location | Map area 13 C2

Latitude | Elev. Topo.

Scale: 62,500 | 25,000 | 24,000 | Data in Town Files |

		,		(1	المستدير سيسرل
ł,	WELL OWNER #2	ctor bed	air Na,	Parmenent Mei	X (T) 05454
	WELL PURCHASER				Malling Address
		Home (1)	cton amanus		LOT NO.
2. 3.	LOCATION OF WELL! TO DATE WELL WAS COME			SION	
J. 4	DATE WEED USE OF WE	I I Warrentia Cla	thar		
•		,	ply, () Replace Existing Supply, (
5.	KERZON FOR DRIEFING		Additional Supply, O Other		
_			ory with A-P, C Other		
6.	DRILLING EQUIPMENT	. Casie Tool, Caron	End Casing, Screened or Slatted		
7.	TYPE OF WELL ! !!!	Hole in Bedrock, LIPOpen	End Casing, U Screened or Sisting,		
8.					Can
9.	CASING FINISH: 12 Above	ground,Finished, 🗋 Abore:	round, Unfinished, U Byried, U In P	PII, [] Removal, []	Mone wood, [] Other
Ю.	CASING DETAILS: Total let	ngih H Leas	11 Ola 11 Ola 11 Ola	<u></u>	Steel w. 17 10.111.
H.					Walght lb./tf
12.	METHOD OF SEALING	CASING TO BEDRO			Drilled in hole (1 in Badrock
13.	SCREEN DETAILS HOLD	and Type	,Hali	orial	ft , Diometer
					avel Site or Type
14,	YIELD TEST: Bailed.	Pumped, @ Campresses	ir, for Hours et_	c.	ations per minute
		Megaur	ed by 🗗 Bucket, 🛭 Oriface pipe, [🗇 Wier, 🚨 Weter	Permonent Atriine
15.	STATIC WATER LEVEL	feet t	selow lead surface . Date or Time mean	sered	, Overflows 41 G P M
16.			Yee Ab, If Yee, Where		
17.	SPECIAL NOTES:				
18.	WELL LOG				19. SITE MAP Show permoneal afracture such as buildings, septic tanks, or
10.	Depth from Land Swiface Water			States	other tend marks and indicate not less than two distances to the indicate focal street name and subdivision lest number
	Feet Feet Bedring		ormetion Description		
	Surface 3	Gravle			1 1 1 mil 12 H
	3 10	Send			West OAK HALKIE
	10 14	06.1		į	1 / 72
		Rock			1 1 2 E
	14 500	1000	•		1 2 -
	<u> </u>				
		ļ			A.
			WELL DRILLED BY	77741	tin Kattal
20	TESTED YIELD If the york was travel of different to	m the during drilling, had below		1	
	Feel	Gallens Per Minute	DOING BUSINESS AS	Kabto	214 Sons Inc
	<u> </u>			P.	Company or Sustained Roma
			REPORT FILED BY:	Sum	(
				1 / -	
			DATE OF REPORT!	1.66	WELL DRILLERS LIC. NO.

WELL NO. /TAG NO. 151 B343 (Fol Driller's Use)

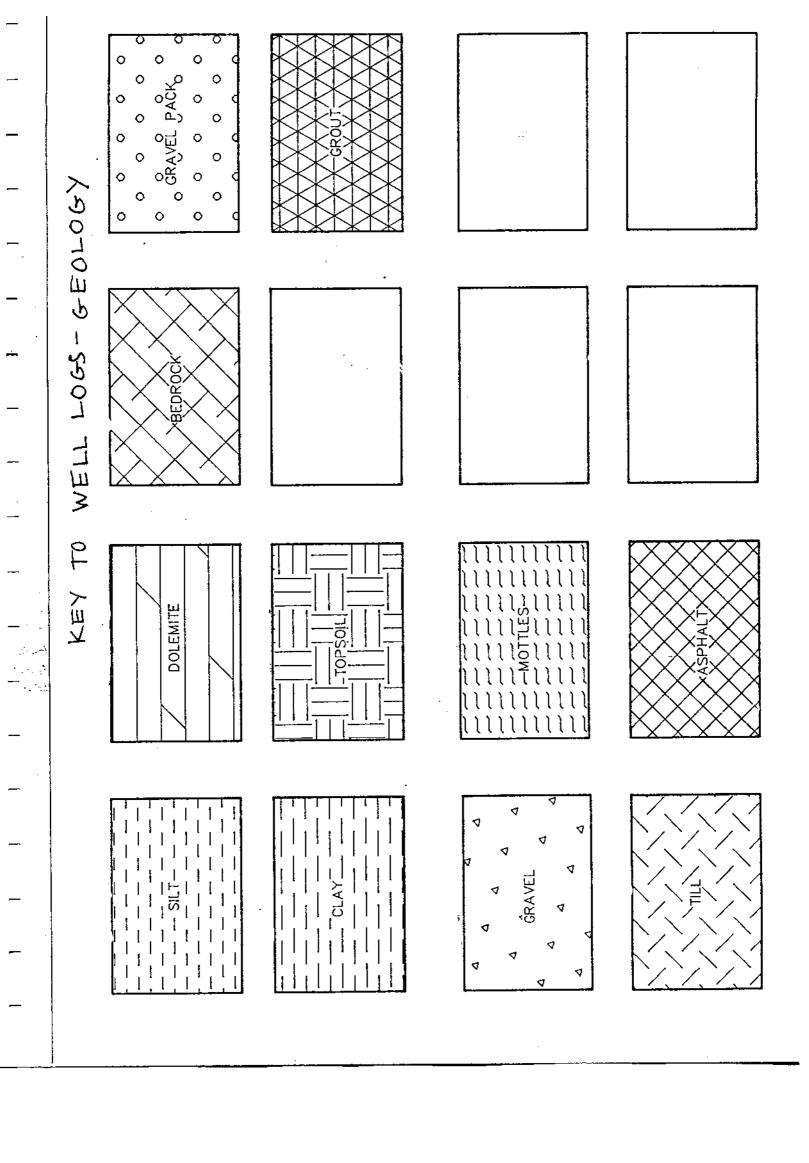
The Department of Environments Conservation
103 Sputh Main Street (10 M), Waterbury, VI
25676 no later than 60 days of the compiletion

State of Vermont Dept. of Environmental Conservation 103 South Main Street (10 N) Waterbury, Vt. 05676 WELL COMPLETION REPORT NOV 2.1 1990

D	EPARTI	MENT US	E ONLY
E.C	304	U.S.G.	s [.]
Field Loc	ation 🗆 I	Map area	135.7
			Elev.
Scale: 62	,500 □	25,000	<u>*</u> Topo. □, 24,000 □

	o. the sell of they ed days arist completion	Location map attach	ed to WCR 303	Data in Town Files
	17) W		ox 2272	J. Burlington VT 05407-
ι.,	OR Norma	10 W 1000)	Permonent Mo	Illing Address
	WELL PURCHASER Nome	Jan Jan Vicin	· · · · · · · · · · · · · · · · · · ·	Mgling Address
2.	LOCATION OF WELL TOWN LIL	liston_ SUBDIN	7	LOT NO.
3.	<i>(2)</i>	100	/ .	
4.	PROPOSED USE OF WELL SOMETIC. OF	agricult	and	
5.	REASON FOR DRILLING WELL : X New Su	pply, 🛘 Replace Exiting Supply	, 🗍 Deepen Existing W	fell, 🗋 Tast or Exploration,
	•	Addillonal Supply, () Other		
6.	DRILLING EQUIPMENT: C Cobie Tool . Rol	ary with A-P, O Other		
7.	TYPE OF WELL SOPEN Hole in Bedrock, C Open	End Casing, 🔲 Screened or Slot	ied; 🖸 Other	
8	TOTAL DEPTH OF WELL: 920	feet below lond sur		
9.	CASING FINISH: X Above ground, Finished, - Above	ground, Unfinished, 🔲 Burled, 🔲	In Pit, 🗒 Removed, 🖸	None weed Olher
IO.	CASING DETAILS Total langin 21 11 Lang	IN below L.S. 195 H Did	,in. Materla	<u>oleil wi 19 10/11</u>
H,	LINER OR INNER CASING DETAILS! LongIN	used fi_Dlameter	iy. Moterial .	Weight lb./fr
12.	METHOD OF SEALING CASING TO BEDRO	CK: A Drive Snoe. A Grout -	1700 lursu	Chrilled Sin hole 17 ft in Bedrack
		Other		
13.	SCREEN DETAILS! Moke and Type		taterial	t not
	Slot Size, Depth to top of screen in feet below	land surfacetl	, Gravel pack If weed. G	rayet Size or Type
14.	YIELD TEST: D Boiled, D Pumped, A Compressed A	ir, for Hours o	" <u>7</u> == 0	ations per minute
	Medium	ed by Bucker, 🗆 Orifoce pipe	, 🗆 Wier, 🗆 Meler 🖯	Permanent Airline inst
15.	STATIC WATER LEVEL!		1	
16.	WATER ANALYSIS: Has the water been analyzed >	Yes 🖪 No. If Yes, Where		
17.	SPECIAL NOTES: Yell byde of co	iced: Final Yie	79; 15 28	
18.	WELL LOG			19. SITE MAP Show permonent atructure such as buildings, septic lanks, and/o
	Depth from Lond Surface Water	ormation Description	Skatch	other land marks and indicate not less than two distances to the well indicate local street name and subdivision latinumber
	Feet Feet Begrang			-
	Surface 2.5 day	<i>A</i>		
	2.5 920 0 800	ust		
			<u>. </u>	/
		,		MELL
				- Let
				The second
				1 1 / 2
			200	
20	TESTED YIELD	WELL DRILLED B	1: II(ank	(nous
	(4 the yeard was toward of different dapths foring drilling, had below	ר	e Cheva	· · · · · · · · · · · · · · · · · · ·
	Feet Gallens Per Mayin	DOING BUSINESS A	15. <u></u>	Company or Business Hame
		REPORT FILED BY	Mark	Christer.
		T KELOKI LILED BI	·	Authorized Signature
		-	7/5/90	WELL DOUGLEDS LIC HO

APPENDIX 2 Soil Borings and Well Logs



GEOLOGY	SANDY SILT	SANDY TILL		
WELL LOGS- (SAND	CLAYEY SAND	GRAVELLY SAND	
大川 大	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND
	CEMENT	BACKFILL	BENTONITE	SAND PACK

DRILLING LOG WELL # SB-1

Project: New England Equipment Co. Casing Type: None Location: Williston, Vermont Casing Diameter: Project: New England Equipr Location: Williston, Vermont Job # 1-1436-1 Logged By: DMM/LRH Date Drilled: 9/10/93 Driller: The Johnson Co. Drill Method: 4" Solid Stem

Casing Diameter:
Casing Length:
Screen Type:
Screen Diameter:
Screen Length:
Slot Size:

Total Pipe: 0.0 ft.
Stick Up: 0.0 ft.
Total Hole Depth: 12.5 ft.
Well Guard Length: 0.0 ft.
Initial Water Level: None
Surface Elevation: —
T.O.C. Elevation: —

Sampled Inte	rval			Sheet — of —
Well Construction	Notes	Geology	PID Reading	Description
Well Construction 5 4 3 2 1		Gedlos'		
- 14 15 16 17				

DRILLING LOG WELL # SB-2

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By: LRH
Date Drilled: 9/10/93
Driller: The Johnson Co.
Drill Method: 4" Solid Stem Auger

Casing Type: PVC
Casing Diameter: 1.5 in.
Casing Length: 10.0 ft.
Screen Type: Factory slotted
Screen Diameter: 1.5 in.
Screen Diameter: 1.5 in.
Screen Length: 4.8 ft.
Surface Elevation: T.O.C. Elevation: -

Drill Metho	od: 4" So	olid Stem Auger	Slot	Size: .01	T.O.C. Elevation: —
= Sam	pled Inter	·val			Sheet — of —
Con	Well struction	Notes	Ceclo 94	PID Reading	Description
5 4 3 - 2 - 1		Well cap (locked)			
F 1					1" topsoil, .1'-1.0': dark brown humid fine sand with some silt.
2 3		— Backfill		8.5	medium brown medium and coarse sar with rocks at 3.0' below ground surface.
E 5 5				2.75	brown humid medium and coarse sand
E 7		— Bentonite		2.0	light brown fine sand with some coarse sand, orange exidation occuring at ~8.0' below ground surface.
E 9		— Sand Pack — Screen		7.8	medium brown humid fine and medium sand
12		— 3" Sump		4.2	medium brown fine and medium grained sand, wet
14 15					
16 - 17					

DRILLING LOG WELL # SB-2A

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM
Date Drilled: 9/10/93
Drill Method: Hollow Stem Auger

Casing Type: PVC
Casing Diameter: 2 in.
Casing Length: 5.2 ft.
Screen Type: Factory slotted
Screen Diameter: 2 in.
Screen Diameter: 2 in.
Screen Length: 5.2 ft.
Total Pipe: 17.2 ft.
Stick Up: -0.4 ft.
Total Hole Depth: 17.5 ft.
Well Guard Length: 1.0 ft.
Initial Water Level: 13.4 ft.
Surface Elevation:
T.O.C. Elevation:

Sampled Interval	Sheet 0	of	0
· · · · · · · · · · · · · · · · · · ·			

	Samplea Inte	1 401	Sheet 0 of 0		
Select	Well Construction	Notes	Geology	PID Reading	Description
- 5 - - 4			-		
3					
1	;		<u> </u> 		
0		— Well Guard ⊷ Cement			
2					
3			¥ ¥		Well is located at former SB-2 location, pulled prior to SB-2A
5		— Backfill			installation. Please see SB-2 for native soil descriptions from 0 to 13.0' below ground surface
6 7					
8					Blow count (18 for 24", 21" recovery) upper 6" of split spoon sample light orange band of fine
9		— Bentonite		1.0	sand, underlain by 15" of light brown massive fine sand, humid.
11					
12 13		$\nabla 7$		•	
14		—————— —Sand Pack			Blow count (21 for 24", 18"
15 16		— Screen		0.8	recovery) upper 8" of split spoon sample light grey saturated sand, underlain by 2" arange band of fine
17		— 1.5" Sump		0.6	sand and 8" of brownish grey fine sand, saturated.
- 1		— uo sump	1 1		

DRILLING LOG WELL # SB-3

Project: Project:
Location: New England Equipment Co.
Job # 1-1436-1
Logged By. LRH
Date Drilled: 9/10/93
Driller: The Johnson Co.
Drill Method; 4" Solid Stem Auger

Casing Type: PVC
Casing Diameter: 1.5 in.
Casing Length: 10.0 ft.
Screen Type: Factory slotted
Screen Diameter: 1.5 in.
Screen Length: 4.8 ft.
Slot Size: .01

Total Pipe: 14.8 ft.
Stick Up: 0.9 ft.
Total Hole Depth: 14.1 ft.
Well Guard Length: 0.0 ft.
Initial Water Level: 12.2 ft.
Surface Elevation:
T.O.C. Elevation:

=	Sampled Inter	rval			Sheet — of —
Street	Well Construction	Notes	Geology	PID Reading	Description
5 4 3			-		
		- Well guard			
- 1		— Cement		9.2	medium brown humid medium grained sand with little gravel
- 2 - 3 - 4		— Backfill		7.2 peak	medium brown medium and coorse grained sand
- 6 - 7 - 8		— Bentonite		10.8	light brown fine grained sand, moist
F 9		Sand Pock		2.6	light brown fine grained sand, moist
11 12 12 - 13		Screen $\sum_{=}^{}$.8	medium brown fine and medium grained sand, wet
15 16	1				
17	,				

DRILLING LOG WELL # SB-4

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM/LRH
Date Drilled: 9/10/93
Driller: The Johnson Co.
Drill Method: 4" Solid Stem Auger

Casing Type: Casing Length:
Screen Type:
Screen Diameter:
Screen Length:
Slot Size:

Total Pipe: 0.0 ft.
Stick Up: 0.0 ft.
Total Hole Depth: 12.5 ft.
Well Guard Length: —
Initial Water Level: None
Surface Elevation: —
T.O.C. Elevation: —

=	Sampled Inte	rval			Sheet - of -
Sea J	Well Construction	Notes	Cedlogy	PID Reading	Description
5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	No	well installation. Backfill		1.8 ppm 1.8 ppm 1.6 ppm .8 ppm	limestone gravel (5mm-40mm), with medium brown fine and medium sand. medium brown fine and medium sand medium brown fine sand with little gravel medium brown fine sand, no gravel, moist medium brown fine sand, no gravel, moist medium brown fine sand, no gravel, moist medium brown fine sand, no gravel, moist (all fill material)
F'					

DRILLING LOG WELL # SB-5

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM/LRH
Date Drilled: 9/10/93
Driller: The Johnson Co.
Drill Method: 4" Solid Stem Auger

Casing Type: None
Casing Diameter:
Casing Length:
Screen Type:
Screen Diameter:
Screen Length:
Slot Size:

Total Pipe: 0.0 ft.
Stick Up: 0.0 ft.
Total Hole Depth: 12.5 ft.
Well Guard Length: 0.0 ft.
Initial Water Level: 9.5 ft.
Surface Elevation: —
T.O.C. Elevation:

=	Sampled Inter	rval			Sheet - of -
Sec. Sir.	Well Construction	Notes	Geology	PID Reading	Description
- 5 - 4 - 3 - 2 - 1	No well	instollotion.			limestone pebble matrix (5mm-40mm
- 1 - 2 - 3				1.1 ppm	with sand and little clay medium brown medium grained sand with trace coarse sand
[Backfill		.8 ppm	medium brown medium grained sand
- 8 - 9				1.0 ppm	medium brown medium grained sand, moist
E 10				.8 ppm	medium brown medium grained sand, wet (water level approximately 9.0')
12 - 13 - 14				.8, ppm	medium brown medium grained sand, wet
- 15 - - 16 - - 17					

DRILLING LOG WELL # SB-6

Project: New England Equipment Co.
Location: Williston, Vermont

Job # 1-1436-1

Logged By. LRH

Date Drilled: 9/10/93

Driller: NEECO/JCO

Drill Method: Excavator

Casing Type: PVC

Casing Type: PVC

Casing Diameter: 1.5 in.

Casing Length: 10.0 ft.

Screen Type: Factory slotted

Screen Diameter: 1.5 in.

Screen Length: 4.8 ft.

Surface Elevation: —

T.O.C. Elevation: —

=	Sampled Inter	·val			Sheet — of —
Sep. 27.	Well Construction	Notes	Geology.	PID Reading	Description
- 1		Flush-mount Well guard — Cement — Backfill — Backfill — Screen — Sand Pack		10.4 1.1 2.4	6" of timestone pebbles (avg. 40mm), medium brown medium grained sand, PID reading taken in excavated area ~20 east of building at 1-2' below ground surface. gray medium grained sand, hardpan at ~3.0' below ground surface. PID reading taken in exacavated area ~20' east of building at 2-4' below ground surface. orange oxidation in coarse grained sand and gravel, poorly sorted. medium brown medium grain sand. PID taken in excavated area ~20' east of building at 6-7' below ground surface. light brown fine grained sand. PID taken in excavated area ~20 east of building at 10' below ground surface.

DRILLING LOG WELL # SB-6A

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM
Date Drilled: 9/18/93
Drill Method: Hollow Stem Auger

Casing Type: PVC
Casing Diameter: 2 in.
Casing Length: 12.6 ft.
Screen Type: Factory slotted
Screen Diameter: 2 in.
Screen Length: 4.7 ft.
Surface Elevation: 98.30
T.O.C. Elevation: 97.95

] = 5	Sampled Inter-	val			Sheet — of —
646	Well Construction	Notes	Geology	PID Reading	Description
5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 4 15 16 17 18 19 20 1 22 23 24 25 26 27 28 29 30 31 2 33 3 34 35 36 37 38 39 40		- Well Guard - Cement - Backfill - Bentonite - Backfill - Bentonite - Sand Pack - Screen - 1.5" Sump		2.3 avg.	Well is located at former SB-6 location, pulled prior to SB-6A installation. Due to prior excavation of this area, the soils have been disturbed. Please see SB-6 for native geological descriptions prior to backfilling. 15-17': brown saturated massive fine sand. PID reading taken at 15-17' below ground surface.

DRILLING LOG WELL # SB-7A

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM
Date Drilled: 9/18/93
Driller: Tristate
Driller: Tristate
Drilled: Stem Auger

Casing Type: PVC
Casing Diometer: 2.0 in.
Casing Length: 12.0 ft.
Screen Type: Foctory slotted
Screen Diameter: 2.0 in.
Screen Length: 5.0 ft.
Screen Length: 5.0 ft.
Surface Elevation: 97.86
T.O.C. Elevation: 97.86

=	Sampled Inter	val	_		Sheet - of -
Stary.	Well Construction	Notes	Gedlogy	PID Reading	Description
5 - 4 - 3 - 2 - 1		— Well Guard — Cement		1.6	0-1.0': crushed limestone (40mm)
- 2				11.6	some fine sand, pebbles. 3-4.0': grey medium sand with pebbles (diesel odor).
- 3 - 4 -		— Backfill		6.2	4-5': medium brown medium and coarse sand.
5 6 7 8 9		- BOOKIIII		2.7	5.6': light brown medium and coarse sand, dry. 6.16': sharp horizontal bands of orange and light brown (.25"-1.0" bands) medium and coarse sand. 6.66': orange, light brown, and black medium and coarse sand. Blow count (44 for 24",24" recovery).
10 - 11 - 12 - 13		— Bentonite — Sand Pack \(\square\)		5.6	light brown fine grained sand, dry, dark brown lamination at 10.7. 11.5': six .25" arange horizontal bands. Blow count (34 for 24", 24" recovery).
15		— Screen		6.5	light grey saturated fine sand, few prominent orange mottles. Blow count (14 for 24", 12" recovery).

DRILLING LOG WELL # SB-8

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM
Date Drilled: 9/18/93
Driller: Tristate
Drill Method: Hollow Stem Auger

Casing Type: None
Casing Type: None
Casing Diameter:
Screen Type:
Screen Diameter:
Screen Length:
Slot Size:

Total Pipe: 0.0 ft.
Stick Up: 0.0 ft.
Total Hole Depth: 7.0 ft.
Well Guard Length: 0.0 ft.
Initial Water Level: None
Surface Elevation:
T.O.C. Elevation:

=	Sampled Inte	rvol			Sheet - of -
Stage	Well Construction	Notes	Geology	PtD Reading	Description
4 3 2 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		well installation. —Backfill —Bentonite		1.8 ppm 2.3 ppm	brown humid fine and medium grained sand with some pebbles, plywood and plastic fragments. (Blow count= 16 for 24", 12" recovery) Split spaon: Upper 5" black oily gook smells like old petroleum with some silt and pebbles. Lower 7" — brown humid fine sand.

DRILLING LOG WELL # SB-9

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM
Date Drilled: 9/18/93
Driller: Tristate
Drill Method: Hallow Stem Auger

Casing Type: None
Casing Type: None
Casing Diameter:
Casing Length:
Screen Type:
Screen Diameter:
Screen Length:
Slot Size:

Total Pipe: 0.0 ft. Stick Up: 0.0 ft. Total Hole Depth: 16.0 ft. Well Guard Length: 0.0 ft. Initial Water Level: 14.4 ft. Surface Elevation: T.O.C. Elevation:

= Sompled Inte	rval	Sheet — of —		
Well Construction	Notes	Geology	PID Reading	Description
- 5 - 4 - 3 - 2 - 1				
- 1 - 1	installation.			massive fine sand
- 3			1.8 ppm	
- 5 - 6 - 7			3.9 ppm	dry light grey fine sand, (20" split spoon recovery)
- 8 - 9	— Backfill			
11 12			5.6 ppm	moist light grey massive fine sand, a few prominent bright orange mottles in lower 8" of split spoon. Blow count (19 for 24", 19" recovery).
13 14 15 16	<u></u>		4.8 ppm	saturated grey fine sand. Blow count (27 for 24", 16" recovery). Water level at 14.4' below ground surface.
<u> 17</u>				

DRILLING LOG WELL # SB-10

Project: New England Equipment Co.
Location: Williston, Vermont
Job # 1-1436-1
Logged By. DMM
Date Drilled: 9/18/93
Drill Method: Hollow Stem Auger

Casing Type: None
Casing Diameter:
Casing Length:
Screen Type:
Screen Diameter:
Screen Length:
Slot Size:

Total Pipe: 0.0 ft.
Stick Up: 0.0 ft.
Total Hole Depth: 16.0 ft.
Well Guard Length: 0.0 ft.
Initial Water Level: 13.5 ft.
Surface Elevation: —
T.O.C. Elevation: —

	· Oten Mage	0.00	0,20.	n.o.c. Elevation:
= Sampled Inter	val			Sheet - of -
Construction	Notes	Gedlagy	PID Reoding	Description
5 - 4 - 3 - 2 - 1 No well - 2 - 3 - 4 - 5 - 6 - 7	installation		4.8 ppm	coarse sand and gravel (avg. 20mm) brown humid fine and medium grained sand dry light grey fine grained sand with faint orange 0.01' laminations every .25" to .50" (sharp contacts). Blow count (18 for 24",
- 8 - 9 - 10	→ Backfill			22" recovery). Lower 8" of split spoon — many large dark orange mottles. humid light grey fine sand with
12	<u> </u>		3.9 ppm	foint orange horizontal larninations in lawer 8" of split spoon, lower 4" damp. Blow count (23 for 24", 20" recovery).
14 15 16 - 17			6.5 ppm	20" split spoon sample recovery, saturated light grey fine and medium grained sand with few .25" orange harizontal bands (sharp contacts).

The Johnson Company, Inc.
Environmental Sciences and Engineering
5 State Street Montpelier, Vermont 05602

DRILLING LOG WELL # SB-11

Project: New England Equipment Co.
Location: Williston, Vt.
Job # 1-1436-1
Logged By. DMM
Date Drilled: 9/16/93
Driller: Tristate
Drill Mathod: Hollow Stam

Casing Type:
Casing Diameter:
Casing Length:
Screen Type:
Screen Diameter:
Screen Length:
Sight Size: Drill Method: Hollow Stem

Slot Size:

Total Pipe: 0.0 ft.
Stick Up: 0.0 ft.
Total Hole Depth: 7.0 ft.
Well Guard Length: 0.0 ft.
Initial Water Level: None
Surface Elevation: 99.4
T.O.C. Elevation: N/A

j =	Sampled Inte	rval			Sheet 1 of 1
Selegy,	Well Construction	Notes	Geology	PID Reading	Description
- 1 0 1 2 3 4 5 6 7 8 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17	No well in	stallation. — Backfill		5.0 6.0 4.4	From auger flights, brown humid fine sand. Refusal on metal between 4-7 feet at three locations. 22 blows for 12". 3" recovery. Brown and bright orange humid fine and medium sand. Sample from auger tip. Brown humid fine sand.

APPENDIX 3 Groundwater Elevation Data

	THE JOHNSON COMPANY, INC. FORM-JCO-HYDRO-007 (Rev. 11/9	0)
	THE JOHNSON COMPANY, INC. Page 1 of State Street JCD (ile Ko.;	_
	S state Street Montpeller, Vermont 05602 GROUNDWATER SAMPLING DATA FORM	17
	100 9+96	(1)
	Date: 9-28-93 Project I.D.: NE. Equip Co. 1-1436-1 (4	ਜ) 🍴
	Date: 9-28-93 Project I.D.: NE. Equip Co. 1-1436-1 (4	
	Location: Williston, VT	_ [
	Site/Well No.: 58-7 Coded/Replicate No.:	_ ;;
	Sampler: W. Daven	- 1
	Weather: clone, 50°F Time Started: 10: 40 Time Completed: 10: 40	- [
	EVACUATION DATA	1
	Paradation of Montaging Point (MIT)	7
	Mr Elevation Mr Elevation Land Surface: Q 41 Mr Elevation 97 110	se ;
	Pour to Water Below MP: 3.91 Total Well Depth:	 }
	Length of Column of Water in Well.	—].ˈ
_	Gallons per Foot': 0.16 Gallons in Well: 0.4576	, -
welev:	Gallons Pumped Sailod Prior to Sampling: 2.5 (5 well 40(.)	<u>. </u>
	SAMPLING DATA/FIELD PARAMETERS	į.
13.91	*CFF Color:	[
	Temperature: Odor:	
	Specific Conductance: Std. units. Appearance:	;
	pH:	Î
	ORP: mv. Measurement Units	ĺ
	Parameter Production	ì
	Other (specific ion; OVA; HNU; Etc).	
	Sampling Method and Material:	
	Parameter Container Descripton Preservative	;
	8010/8020 3-40 ml, Vials PCS	
·		
•		
	Remarks:Sulest	
	· · · <u> · · · · · · · · · · · · · · ·</u>	
-	SOPUCOHYDRO.007	
	Weil casing volumes - Gal./II.	
٠.	1.25" + 0.064 2.00" + 0.16 3.00" + 0.32 4.00" + 0.65	
	1,25 # 0,064 2,00 + 6115	

1,50" = 0.09 2.50" + 0.25 0.50" + 1.47; 6.00" + 1.46

THE JOHNSON COMPANY, INC. Page 1 of 1 5 State Street Honipelier, Vermont 05602 GROUNDWATER SAMPLING DATA FORM Project I.D .: NE . Equip Co 1-1436-1 (44) Date: 9-28-93 Williston Site/Well No.: 56-6 Coded/Replicate No.: Sampler: 15. Daves

Norther: Clauda, 50" F Time Started: 9:05 Time Completed: 7:55 EVACUATION DATA 7dR of FVC well case _0.27 MP Elevation Description of Measuring Point (MP):_ MP Elevation: Height of MP Above Below hand Surface: Depth to Water Below MP: 14.12 Total Well Depth; 17.15 Length of Column of Water in Well: 3,03 0.485 Gallons in Well:_ Gallons per Foot1:_ 5 well vol. Gations Pumper/Bailed Prior to Sampling: SAMPLING DATAFFIELD PARAMETERS *C/F Temperature: umhos/cm Specific Conductance: Sid, units. Appearance: Units Measurement Parameter Other (specific ion; OVA; HNU; Etc). dedicated boule Sampling Method and Material: Preservative Container Descripton Parameter Mc. 8010/8020 Sules SOPUCOHYDRO.007

Leter. 83.83.

FORM-JCO-HYDRO-007 (Rev. 11/90) -

¹ Well casing volumes - Gal/fil.

^{1.50&}quot; + 0.09 2.50" = 0.25 3.50" = 1.47; 6.00" = 1.46

1	THE JOHNSON COMPANY, INC. FORM-JCO-HYDRO-007 (Rev. 11/90) 5 State Street Page 1 of 1 Hostpelier, Vermont 05002 JCD File Ros.:
}	GROUNDWATER SAMPLING DATA FORM
,	Date: 9/28/93 Project I.D.: NE Equip. Co. 1-1436-1(44)
	Site/Well No.: 58-2 Cooled/Replicate No.:
:	Sampler: Warren Davis
•	Weather: Claudy So F Time Started 7:45 Time Completed: /1:40
482 del.	Description of Measuring Point (MP): Top of EVC well cash
TOPELA	Depth to Water Below MP: 13.35 Total Well Depth: 17.20 WLELLY91.71
95.	Districter of Casing: 2.0 Length of Column of Water in Well: 3.85
	Gallons per Foot': 0.16 Gallons in Well: 0.666
<i>5</i> B3	Gallons Pumper Bailed Prior to Sampling: 3.0 (5 well vol.)
HOPELEV.	SAMPLING DATAFIELD PARAMETERS
100.29	Temperature:CFF Color:
100,00	Specific Conductance:umhos/cmOdor:
	pH:Std. units. Appearance:
:	ORP:inv.
:	Parameter Measurement Units .
	Other (specific ion; OVA; HNU; Etc). Sampling Method and Material: deducated bailes
	Sampling Method and Material: :
	8010/8020 3-40 M. Vidy MC1
. :	
	Remarks: Scitsat
	······································
•	SOPVICOHYDRO.007
	Well casing volumes - Gal/tt.
	1.25" + 0.064 2.00" + 0.16 3.00" + 0.32 4.00" + 0.65

1,50" - 0,09 2,50" - 0,25 3,50" - 1,47; 6,00" - 1,45

Page 1 of 1 5 State Street Montpelier, Vermont 05602 GROUNDWATER SAMPLING DATA FORM N.E. Equing (0, 1-1436-1 (44) Will 25 for S. 13-3 Coded/Replicate No.: W. Doven Weather: Cloud - 500F Time Started: 8:15 Time Completed: 9:00 EVACUATION DATA Description of Measuring Point (MP): Top of PVC well Height of MP Abov/Below Land Surface:____ Depth to Water Below MP: 13.09 Total Well Depth: Length of Column of Water in Well: 2.70 Diameter of Casing:_ 1.5 0.243 0.09 Gallons in Well: Gallons per Foot':_ Gallons Pumped Bailed Prior to Sampling:_ SAMPLING DATAFIELD PARAMETERS °C/°F Color: Temperature: Odor: Specific Conductance: umhos/cm Std. units. Appearance: m٧. Measurement Parameter Units Other (specific ion; OVA; HNU; Etc). 111 Bail Sampling Method and Material: Container Descripton Preservative Her - 40 ml. viale Ane to sediment in

FORM-JCO-HYDRO-007 (844, 11/90)

THE JOHNSON COMPANY, INC.

SOPUCOHYDRO.007

Well casing volumes - Gal./II.

11416	TAN	5/T	EX	KF	TH.		SCA	CKED BY	$\overline{J^{n}}$	=30	, /		- DATE.		124/9	_
						• !	•	<u> </u>				CEY	•			-
111015		AVE	NDE	3			,					MO	WTOR	W6-	1	
<u>بر</u>	RIAL		/								E			- E44	N	Ť
NOVZ											A.Z	~ · · · · · · · · · · ·				
)	<u> </u>	<u> </u>	/	<u> </u>			<u> </u>				R	ELA! ASS	VAL	70 /	AN ATUM	1
					<u> </u>		 			/	/					
											<u> </u>			<u> </u>		
<i>5</i> 32		/	<u> </u>		<u> </u>	·····	<u> </u>			/ >						<u></u>
WELL 181.7.	_ /			$\langle \cdot \rangle$		<u>i</u>			//					: :		ļ
F 21.4	* /						<u> </u>									
			<u> </u>		1						ļ <u>-</u>	`]
									GA	RAG	F		>			
													/ , ,	,		
		<u> </u>	 				_/.] ;			<u> </u>	/	<i>≤8</i>)		/
						DRI	WELL						E #3	ムコ	/	! ↓
						TAN	K2 -	\/ -	\				L 25	. 7.5	-/	<u> </u>
•					DR	VK [۷	/]	个						/	ļ.,
		: : :			TA	VK [1	> +			<u>.</u>	ļ			ļ !
		<u> </u>										<i>5B</i> 7			1	! !
					/ /	/		:				WEL.				
	! <u>!</u>						:				ų į	WEL. 33.8			. !	
	<u>.</u>		! ; !;	/					+	<u> </u>	~ '				_ &	``
	<u> </u>		/					<u> </u>	<u> </u>				<u> </u>	-	3	32
	! ; [<u> </u>			· · }		<u> </u>		/ : 	: · <u>!</u>	!.		<u>څ</u>
			/					: : :				·····;	[· ·
	- · · · · · · · · · · · · · · · · · · ·	B									· · · · · · · · · · · · · · · · · · ·		 			
	-	10						L : :								
			<u> </u>	<u>.</u>		:		<u>:</u>	۸۸							
	: :			<u>:</u> <u>!</u> .				i	W.			:	· .	· .		
				<u> </u>				÷ 	<u> </u>					1		
			<u> </u>	:	: . !	1	: 1.		·	<u> </u>	<u>.</u>		· · · · · ·	. :	: :	
		- · · · · · · · · · · · · · · · · · · ·		RDI	WDV	1) AT 2	=P	-/ <u>-</u>	1/477	או	01	19.	1/-	az		
-1 (<u>NEBS)</u> lac. Goton.	Mass. 01471.	<u>:</u>	<u></u>	1170	NOLIV:	<u> </u>	<u>-/ }</u>		/////	1111	010	/ "	100	بر		
waranina.	. •															
		•	· . :	٠. ٠							•					

APPENDIX 4 Sampling Data and Laboratory Chemical Analyses

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman James E. Bruya, Ph.D. (206) 285-8282

3008-B 16th Avenue West Scattle, WA 98119 FAX: (206) 283-5044

September 23, 1993

Don Maynard, Project Leader The Johnson Company 5 State Street Montpelier, VT 05602

Dear Mr. Maynard:

Enclosed are the results from the testing of material submitted on September 20, 1993 from Project 1-1436-1, New England Equipment Co.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

Elaine K. Zamora

Chemist

EKZ/dp

Enclosures

FAX: (802) 229-5876

ΤŪ

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: September 23, 1993 Date Received: September 20, 1993

Project: 1-1436-1, New England Equipment Co. Date Samples Extracted: September 20, 1993

> RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID) AND ELECTRON CAPTURE DETECTOR (ECD)

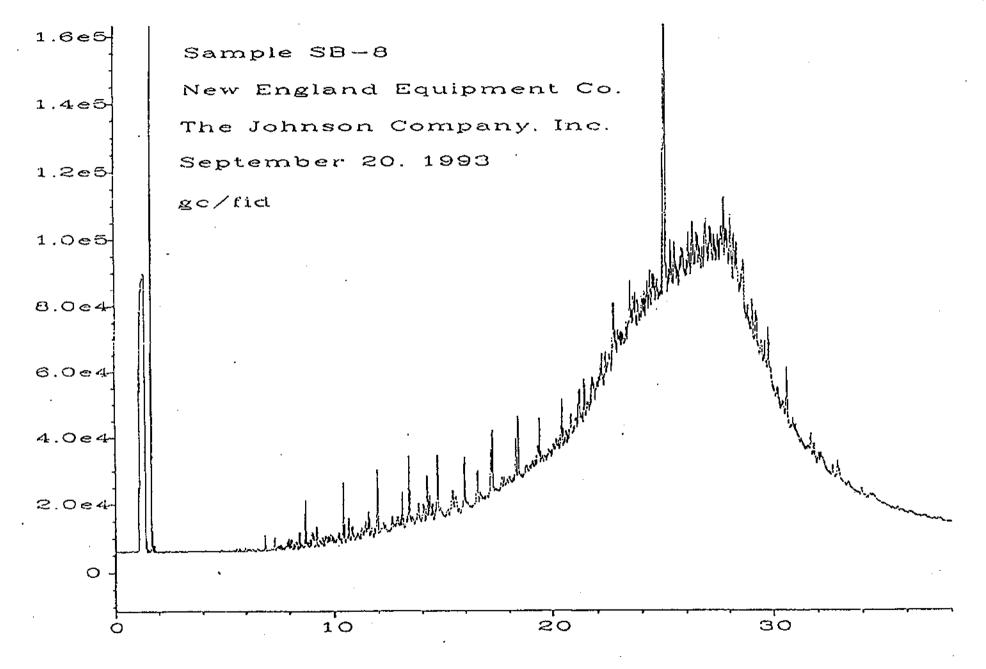
Sample#

SB8

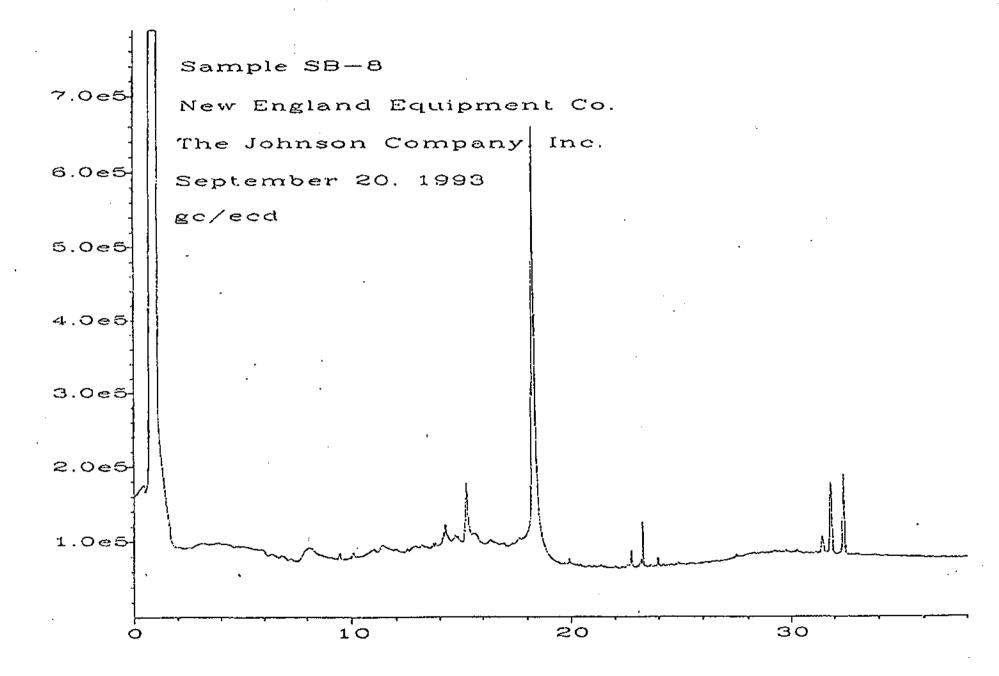
GC Characterization

The GC trace using the flame ionization detector (FID) showed the presence of medium and high boiling compounds. The patterns displayed by these peaks are indicative of diesel fuel or heating oil, and motor oil or hydraulic fluid.

The medium boiling compounds appeared as a regular pattern of peaks eluting from n-C₁₀ to n-C₂₀ showing a maximum near n-C₁₈. A regular pattern of the n-alkanes is seen for the medium boiling product. The medium boiling material was not significantly weathered. The high boiling compounds appeared as a pattern of peaks eluting from n-C₂₀ to n-C₃₀ showing a maximum near n-C₂₈. The large peak seen near 25 minutes in the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There are two peaks on the ECD trace which are probably phthalates.



Sig. 1 in C:\HPCHEM\1\DATA\09-20-93\011F1001.D



FRIEDMAN & BRUYA

Sig. 2 in C:\HPCHEM\1\DATA\09-20-93\011R1001.D

-	LABORA	TORY REPORT	WYP
LIENT NAME:	The Johnson Company	LABORATORY NUMBER:	3-1721
ADDRESS:	5 State Street	PROJECT NUMBER:	78611
ADDRESS.	Montpelier, VT 05602	DATE OF SAMPLE:	9/28/93
	,	DATE OF RECEIPT:	9/29/93
SITE:	New England Equipment	DATE OF ANALYSIS:	9/30/93
TTENTION:	Warren Davey	DATE OF ANALYSIS: DATE OF REPORT	10/1/93

			700 T	>SB-2 (1)	TRIP
'ARAMETER	<u>SB-3</u>	<u>SB-6</u>	SB-7 DANGO BPQL BPQL	SB-2 BPQL BPQL BPQL	BLANK
_Chloromethane	BPQL	BPQL	BPQL;	BPQL	BPQL
Зromoform	$\overline{\mathtt{BPQL}}$	BPQL	BPQL 5	BPQL	BPQL
Bromomethane	BPQL	BPQL	BPQL	[#] BPQL	BPQL
-Dibromochloromethane	BPQL	BPQL	BPQL	BPQL	BPQL
Jinyl Chloride	BPQL	BPQL	BPQL	BPQL	BPQL
2-Chloroethylvinyl Ether	$\widetilde{\mathrm{BPQL}}$	BPQL	BPQL	BPQL	BPQL
-Chloroethane	BPQL	BPQL	BPQL	BPQL	BPQL
Methylene Chloride	BPQL	BPQL	BPQL	BPQL	BPQL
Trichloroethylene	BPQL	BPQL	BPQL	\mathtt{BPQL}	BPQL
Trichlorofluoromethane	BPQL	BPQL	BPQL	BPQL	BPQL
1.1-Dichloroethene	BPQL	BPQL	BPQL	BPQL	BPQL
1,1-Dichloroethane	$\widehat{\mathtt{BPQL}}$	BPQL	BPQL	BPQL	BPQL r
or t-1,2-Dichloroethylene	BPQL	BPQL	BPQL	BPQL	BPQL ///
Chloroform	BPQL	BPQL	\mathtt{BPQL}	2	BPQL ///
1,2-Dichloroethane	BPQL	BPQL	BPQL	BPQL	BPQL
1,1,1-Trichloroethane	BPQL	BPQL	BPQL	BPQL	BPQL
Carbon Tetrachloride	BPQL	BPQL	BPQL	BPQL	BPQL
Bromodichloromethane	\mathtt{BPQL}	BPQL	BPQL	BPQL	BPQL
1,2-Dichloropropane	BPQL	BPQL	BPQL	BPQL	BPQL
:-1,3-Dichloropropene	BPQL	BPQL	BPQL	BPQL	BPQL
c-1,3-Dichloropropene	BPQL	BPQL	\mathtt{BPQL}	BPQL	BPQL
1,1,2,2-Tetrachloroethane	BPQL	BPQL	BPQL	BPQL	BPQL
1,1,2-Trichloroethane	BPQL	BPQL	BPQL	BPQL	BPQL
_Tetrachloroethylene	BPQL	BPQL	\mathtt{BPQL}	BPQL	BPQL
Benzene	BPQL	BPQL	BPQL	BPQL	BPQL
Foluene	BPQL	BPQL	\mathtt{BPQL}	BPQL	BPQL
Ethylbenzene	BPQL	BPQL	\mathtt{BPQL}	BPQL	BPQL
Chlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL
1,4-Dichlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL
_1,3-Dichlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL
1,2-Dichlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL
Xylenes	BPQL	BPQL	BPQL	BPQL	BPQL
-Surrogate % Recovery 8010/8020	86/100	88/101	85/100	83/100	89/101

EPA Method 8010 & 8020; all results reported as ug/L or ppb.

-BPQL = Below Practical Quantitation Limit: 5 ppb for Bromoform; 2 ppb for Methylene Chloride; 1 ppb for all other parameters.

RJL/mh



Respectfully Submitted, SCITEST, INC.

Roderick J. Lamothe Laboratory Director

LABORATORY REPORT

CLIENT NAME:

The Johnson Company

LABORATORY NO.:

3-1699

TADDRESS:

5 State Street

PROJECT NO .:

78611

Montpelier, VT 05602

9/23/93

SITE:

New England Equipment, Williston, VT

DATE OF RECEIPT:

DATE OF SAMPLE:

9/23/93

ATTENTION:

Don Maynard

DATE OF REPORT:

10*/*7/93

Dry Well - Sludge TCLP Extraction Data Date of Extraction: 9/28-29/93

Extraction Fluid #2, Final pH 4.56

ANALYSIS OF EXTRACT

_	<u>PARAMETER</u>	RESULT,mg/L	REGULATORY LIMIT, mg/L
_	Arsenic Barium	0.06 0.5	5.0 100.0
	Cadmium	0.01	1.0
	Chromium	0.70	5.0
	Lead ·	0.2	5.0
	Mercury	< 0.0005	0.2
•	Nickel	0.27	₄ 1§.0
	Selenium	< 0.01	± 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Silver	< 0.05	3 B. C. 1800
	Zinc	.3	36 250
_			THE TO TO TO THE
		, phonon the	KERMON INC
			7 .

Page 2 of 2





LABORATORY REPORT

P.O. Box 339 Randolph, Vermont 05060-0339 (802) 728-6313

CLIENT NAME:

The Johnson Company

LABORATORY NO.:

3~1699

5 State Street

PROJECT NO.:

78611

_ADDRESS:

Montpelier, VT 05602

DATE OF SAMPLE:

9/23/93

SITE:

New England Equipment Co., Williston, VT

DATE OF RECEIPT:

9/23/93

-ATTENTION:

Don Maynard

DATE OF REPORT:

10/7/93

RESULTS

(Expressed as milligrams per kilogram [mg/kg] dry weight)

LOCATION

Dry well 1 - Sludge

Respectfull & Submitted,

SCITEST, INC.

Laboratory Director

RJL/ph

Page 1 of 2

1



P.O. Box 339 Randolph, Vermont 05060-0339 (802) 728-6313

LABORATORY REPORT

TLIENT NAME:

The Johnson Company

ADDRESS:

5 State Street Montpelier, VT 05602

AMPLE LOCATION:

New England Equipment Co

Williston VT

LABORATORY NO. 9 PROJECT NO.:

DATE OF SAMPLE:

DATE OF RECEIPT:

DATE OF ANALYSIS:

DATE OF REPORT:

10/21/93

ATTENTION:

Don Maynard

Oil and Grease Results in mg/kg (EPA Method 413.2)

JOCATION

Drywell 1 Dirt

Results

10,600

Respectfully submitted,

Lamothe Laboratory Director

_RJL



LABORATORY REPORT

P.O. 80x 339 Randolph, Vermont 05060-0339 (802) 728-6313

CLIENT NAME:

The Johnson Company

LABORATORY NO:

3-1823

ADDRESS:

5 State Street Montpelier, VT 05602

PROJECT NO:

78611

CITE.

_

DATE OF SAMPLE:

10/8/93

SITE:

New England Equipment Co.

Williston, VT

DATE OF RECEIPT:

DATE OF ANALYSIS:

10/12/93

10/18/93

ATTENTION:

Don Maynard

DATE OF REPORT:

10/25/93

TOTAL PETROLEUM HYDROCARBONS (418.1) RESULTS

(Results expressed as milligrams per liter (mg/L) unless otherwise noted)

LOCATION

CONCENTRATION

Drywell Water

1.6

Methodology:

EPA 418.1, TPH by IR.

Respectfully submitted,

SCITEST, INC.

Roderick J. Lamothe

Laboratory Director

RJL/mh

					CHAIN	OF CU	STODY K	ECORL	,						4 -	<u>-</u>
Client/Project N	lame			Projec	t Locatio	on				$\overline{}$			·			
NEW ENGA	ANDE	RUIPMEA	17- CD.	レル Field Log	14157	on, v	7			\bot		A	NALYS	E\$,/	
Project No.										/ /	/ /	/ /	/ /	/ /	′ /	
Sampler: (Sign	36-1			DA	MM 9) 			<u>_</u>							
Sampler: (Sign	ature))	Chain of Co		-			N. A.							
SIM	7////	MIN	<i>y</i>	1.	007			/	A A A A A A A A A A A A A A A A A A A	/ /		/ /	/ /		•	•
Sample No./	Date	Time		ample nber			nple					/_			REMA	ARKS
558	9-16-92	13:55			Porde	Vt 2	Tors	T						HOT	REMARKS - SWeet ODOR SIBLE: Hydraulic ENTS-Diefel- TR OIL. Date Time Date Time Date Time	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						<i></i>							POS	516ly 16	YMOLD.
														POLE	BLE H	polovic FIX
									<u>]</u>			<u> </u>		5041	<u> 5115-01</u>	refel-
									<u> </u>			ļ				
	<u></u>		,						 		<u> </u>	ļ		ļ <u> </u>		
	ļ								ļ			ļ <u> </u>	<u> </u>	<u> </u>	····	
	(0)		· · · · · · · · · · · · · · · · · · ·		<u> </u>	Date	Time	Rece	ived by	: (Sign	ature	<u> </u>	<u> </u>		Date	Time
Relinquished by	y: (Signature	11/1/1	7/1/1	1111		9/17/4	3	11000		. (0.977	0.0,0,					
Relinquished b	y: (Signatur	e)	Henry H			Date	Time	Rece	ived by	r: (Sign	ature)				Date	Time
	<u></u>		0				- I	<u> </u>		···-		 -				
Relinquished b	y: (Signaturi	e)				Date	Time	Hece	ived to	r Labo	ratory:	(Signa	ture)		Date	lime
Sample Dispos	Relinquished by: (Signature) Relinquished by: (Signature) Sample Disposal Method:					Dispose	d of by: (<i>Sig</i>	nature)							Date	Time
SAMPLE COLL	ECTOR				l		CAL LABO					·····			<u> </u>	
5.5	5 State Street THE JOHNSON COMPANY, INC.					FREEDMAN + BRUVA										
Montpelier,	VT 05602 En	vironmental S	Sciences and	Engineering		λ										_
	229-4600															
10x: (802)	229-5876															
l .											 —		·· · · · · · · · · · · · · · · · · · ·			

	CHAIN OF CUSTOD	RECORD	Q. x		Nº 10	04
Client/Project Name NM/ England Egup MC Project No. - 436- Sampler: (Signature)	Project Location WILLSTON - V Field Logbook No. DM BA Chain of Custody Tape No. N/A	T		ANALYSES		
Sample No./ Lab Saldentification Date Time Num	•				REMAR	KS
DRYWY 10/9/93 9:45	12tr CLass					
Relinguished by (Signature)	Date Tim	Received by	: (Signature)		Date	Time
Relinquished by: (Signature)		Received by	r: (Signature)		Date	Time
Relinquished by: (Signature)	Date Tim	I	r Laboratory: (Sign	nature)	Date /0 / 12/92	Time
Sample Disposal Method:	Disposed of by:	(Signature)	n Mon	<u> </u>	Date/	8422N Time
SAMPLE COLLECTOR 5 State Street THE JOHNSON COMPA Montpelier, VT 05602 (802) 229-4600 Fax: (802) 229-5876	NY, INC. BILL Results TO Q MAYNARI	BORATORY SO TO BOS I NEW ENG 4 WOO	NH 037	UP. Co.		

				Cr	TAIN OF CO	SIUDI NE	COND	'						••	
Client/Project Na	ame		<u></u>	Project L					/						
Newengl	land Eg	infine	Jr Co	L.	Illista	~ \ <u>/</u>			\angle		А	NALYS			
Project No.		<u>,</u>		Field Logbo	ook No.					/ /		limb	/ , /	31	44
1-14	36-1	(44)								Deixi	れいへ	/	ul,		y giver,
Sampler: (Signa	(ure)			Chain of Cust	tody Tape No.			$\mathcal{I}_{\mathfrak{c}}$	/	1/2	e k	yand		Least lie	alous/
Sampler: (Signa	~ 1, x)		J	CO 3 18 85	>	/		/ ,		/	/	7	Bill die	182
Sample No./ Identification	Date	Time		ample 🚗	C STAN	pe of	76					_		REMAR	
Trip Weak	5-22-93	2.76	3-172	1-15	CO TEST	ij,t.	3						HCI	preserved	
56-3	972 43	9.00		<i>t</i> 1	5 %	# Z	3	ļ.,				ļ		<u></u>	
SB - 6		9:55		2	MA ON	£.2	3								
56 - 7		10:40		3	O.		3		/						
58.2		11:40		2/			3		<u>/_</u>						
	,	,					<u> </u>		<u></u>						
		1								/			<u> </u>		
		1	Į.							<u> </u>		ļ		V	
Relinquished by	(Signatur	e)	77. 7	Theren (Date	Time	Recei	ived by	r: (Sigr	nature)				Date	Time
Relinquished by			120.1	200000	Date	Time	Rece	ived by	y: {Sigr	nature)				Date	Time
Relinquished by	r (Signatur	-e}			Date	Time				ratory:		iture)		Date	Time
	. •						20	mes	ρ,	Mor	wh			9/21/93	840 W
Sample Disposa	al Method:				Dispose	Disposed of by: (Signature)						,== -, -	Date	Time	
SAMPLE COLLE	ECTOR	<u> </u>	·	· · · · · · · · · · · · · · · · · · ·	ANALYT	ICAL LABOR	ATORY	,		<u>. </u>				1	
S State Street THE JOHNSON COMPANY, INC.						Sca	Ext 1	Ž۱۸	2cL	Lande	the.	١.			
5 Ste Montpelier, V			Sciences and												
	229-4600				\						 ,	<u> </u>			•
Fax: (802)	229-5876				New E	rgland Eg	م ج	/AH	plic Be	in Wil	liams	_	X		
1				_	14 60	ddcode	Lane	ET	NA	NH	0375	0	<i>y</i>		

